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FOR THE

Farm, Garden, and Household.

"Agriculture is the most Healthful, the most Useful, the most Noble Employment of Man."—WASHINGTON.

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AMERICAN AGRICULTURIST,

FOR THE

Farm, Garden, and Household.

"AGRICULTURE IS THE MOST HEALTHFUL, MOST USEFUL, AND MOST NOBLE EMPLOYMENT OF MAN."—WASHINGTON.

ORANGE JUDD, A.M., EDITOR AND PROPRIETOR. Office, 41 Park Row, (Times Buildings.)

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American Agriculturist in German.

Each number of this Journal is published in both the English and German Languages. Both Editions are of the same size, and contain, as nearly as possible, the same Articles and Illustrations. The German Edition is furnished at the same rates as the English, singly or in clubs. A club may be part English, and part German.

Notes and Suggestions for January.

It is with no empty words that we wish our largely increased circle of readers A HAPPY NEW-YEAR. Believing that earthly enjoyment can nowhere be attained more certainly, or in higher degree, than in the peaceful avocations of Agriculture, and feeling assured that its *intelligent* pursuit will bring added pleasure, we may confidently expect that our efforts to gather and impart information in this sphere will tend to *make* it a happy year. Cheerfully then we commence another volume, the more so because past efforts have met such generous appreciation....Winter, no less than Summer, has its husbandry. The *growths* of this season, though not so attractive as the foliage which ornaments the landscape under a more fervid sun, are as marvelous, and, to the close observer of Nature, as interesting as the productions of Summer. What can surpass the work of the frost during a single night? The blade of grass, the forest leaf, and the gay flower, require days and weeks for their development; but now, a single hour will call forth myriads of forms which the most exquisite art can scarcely imitate. Jewels sparkle upon every tree and shrub and spire of withered grass, needle-like crystals of delicate proportions adorn even the wayside pools, and fairy creations which no human artist could ever imitate, decorate with lavish profusion the window pane of the humblest cabin. These productions of Winter require no oversight from man, except to limit their development. He must fortify himself and his surroundings against the benumbing cold, and wait the more propitious days of the advancing year before commencing operations in the field. But this freedom from pressing out-door employment gives opportunity for culture that may yield a richer harvest than was ever gathered with sickle or reaper. It is the season for the thought-crop—for collecting stores of knowledge, for enlarging the mind's wealth by gathering the recorded experiences of others, and for increasing executive power by carefully digesting the facts and observations found in appropriate books and journals. The files of the *American Agriculturist* will well repay a second reading, by recalling forgotten topics, or presenting facts unnoticed during the busy season of out-door operations. Facts gathered in reading will be better appreciated and longer remembered, by discussing them with others. New light will be thrown on a subject when viewed by different minds, and one's own apprehension will be quickened by friendly conversation. To this end the Farmers' Club is a most valuable institution, which should be kept up in every School District throughout the country. Were these clubs properly maintained, and concert of action secured among them, Agriculture would be advanced with incalculable rapidity. Information could at once be had of the adaptation of different crops, fruits, methods of culture, etc., to different localities; decisive experiments on important subjects might be made; reliable statistics of crops gathered for the common use; and many other benefits which will suggest themselves to the thoughtful mind, be derived by such general organization. As the first step in this direction, let every reader of these pages become a self appointed committee to sustain the club in his own neighborhood; when a sufficient number are in operation, it will be comparatively easy to bring the separate societies into one great circle. Even if the latter result be not attained in many years, every neighborhood will be amply repaid for sustaining such an institution, in the immediate results to those who take part in it.

Work for the Farm, Barn, and Stock Yard.

Accounts, Inventory.—It matters little whether one is familiar with book-keeping or not—the accounts may still be correct: every man knows the difference between money spent and money received, between that due him and that which he owes. Let these differences be set down in a perfectly clear manner, and be able at any time to foot up these four columns. Besides, it is necessary to know what one is likely to receive, the expenses soon to be incurred, and obligations to be met. Every man should have a full memorandum of these things, and in order to begin the year well in a business point of view, every farmer should take an inventory of all his property. This will enable him to keep all future accounts much more satisfactorily.

Agricultural Reading.—At least one good agricultural journal should be received in every farmer's family. There are many new books, and old ones too, which every reading farmer should have. Several were noticed the past year in the *Agriculturist.* See list on another page.

Buildings.—Keep tidy; consider plans for improvements; paint in warm, dry spells, and do not neglect or defer little repairs which save the expense of greater ones. A stitch in time, etc.

Cellars.—Exclude the frost by banking up additional earth around the foundation walls. Open them on warm dry days to change the air.

Cows.—Feed well and give warm shelter, especially to cows in calf. Dry off before the new milk springs. Occasionally clean the skin and coat with card and brush. See December notes.

Dairy.—Propose the subject of Associated Dairies in the Farmers' Club. See page 15. Care and carrots will make winter butter yellow.

Debts and Dues.—Collect dues and pay debts. Remember that the best time to *pay off* debts and mortgages is when the currency is inflated.

Eaves.—There is often a deposit of leaves and dirt in eaves troughs. This is loosened up by the frosts, and during a "January thaw" will be washed into the cistern if not removed.

Farmers' Clubs.—There is an old proverb, that "two heads are better than one." Did farmers only realize how much a general improvement in agriculture in their own neighborhood would promote their own personal advantage, they would put their heads together much more than they do, and each School District would sustain an active Farmers' Club.

Fencing stuff is best cut when the sap is in, from June to September. The Winter is the proper time to work up the logs into rails, posts, etc.

Frost.—Pumps and hydrants may be kept from freezing in the severest weather, by setting a headless barrel around them, and filling it with horse dung, mixed as usual with some strawy litter. Fence posts, etc., will be less heaved by frost, if a handful of salt be sprinkled around each, on the surface of the ground.

Grain.—Have all grain early thrashed and stored in clean, dry, rat-proof granaries. Clear out rats and mice from granaries by phosphoric salve or other poison. Corn keeps best in the ear

Harness.—Overhaul harness on damp days, especially after it has been wet. First wash with Castile soap; then grease with neats-foot oil. Treat carriage tops in the same manner.

Horses.—All in use should be well shod and sharp. Be very careful if mares in foal are allowed to leave the stable in slippery weather. Many a fine mare has been spoiled by slipping down. A foot of light snow offers a good opportunity to break a fractious colt to saddle.

or harness if he is taken where he will not slip. Always be gentle with colts and get them accustomed to be handled and to like your presence. A few carrots fed daily are very valuable for horses at this season and through the Winter.

Ice.—Fill the house early. See another page.

Liquid Manure—is one of the most valuable products of most farms, and it is too often entirely lost. Use absorbents freely, straw, muck, etc., with the addition of gypsum in case of heating.

Manure.—Heaps of rapidly fermenting manure (as horse dung) will fire-fang even in mid-winter. Work it all over, adding muck, soil, loam or even sand, and mix well. Sprinkle gypsum or a solution of green vitriol where strong fermentation occurs.

Markets.—Few farmers can afford to hold their produce for a higher market after a good price is offered. Prices are usually higher in Spring, but corn and all grain shrinks from loss of water, from the ravages of vermin, and from actual waste, enough to make the gain very little.

Oxen, like horses, should be kept sharp-shod. They ought to be stabled, well fed, and not overworked. Letting cattle get "spring poor" just before spring plowing is bad for them and the farm.

Plowing.—It is worth while to plow whenever the ground is open enough, and it not unfrequently happens that it is so in January, especially below lat. 41°. Spring work is advanced by just so much.

Poultry.—See article on page 22.

Roads and Paths.—It is for the interest of the whole community that after snow storms the roads be promptly opened. Every good citizen will volunteer to do his part with shovels, snow-plows, etc., to break paths and establish neighborly intercourse.

Roots should not be carelessly fed out; they are so excellent a corrective that carrots, wurzels and rutabagas should be kept through till grass. All pregnant animals, and all with constipated bowels should receive a daily allowance.

Seeds of all kinds should be free from dampness, and have more or less change of air. An old rat trap, or a box made of wire cloth, or an old tin pan or pail covered with the same are adapted to the purpose.

Sheep.—Shelter from rains and storms, but do not confine them to close sheds unless fattening.

Steers.—Look out and get good mates for your steers, if your herd does not supply them; spend some time daily, not *breaking*, but training them.

Swine—Should have a place under cover, where by working over the litter and manure of the stables, or muck and straw thrown to them, they will be preparing a good supply of manure for use.

Timber Land.—Winter is the time to cut firewood, and this should be done, where timber has considerable value, by selecting the crooked, hollow trees, having reference to giving young trees and those valuable for sawing, etc., more room.

Tools and Implements.—Discuss new and improved kinds in the club and with your neighbors.

Water.—See article on another page.

Workshop.—Any farmer not having a well stocked workshop should at once provide it. See "Basket."

Orchard and Nursery.

In this, as in the other horticultural parts of the Calendar, we might refer to the notes of last month, were it not for the great number of readers who will look over these pages for the first time. It is expedient to have the Calendar for the year complete in itself, and we therefore suggest what few things are to be done during the present month.

The orchard should be visited occasionally to see that all is going on well. A defective fence, or a gate carelessly left open, may be the cause of serious injury to young trees. All kinds of stock will browse on the young shoots or gnaw the bark of trees, and they are to be carefully excluded.

Tramp down the snow around young trees to keep off mice, and set traps for rabbits. In the basket columns a note will be found upon a composition said to be useful to girdled trees.

If limbs are broken down by the wind or by an accumulation of ice and snow, pare the wound smooth and cover it with waxed cloth (described on page 20) to exclude the weather.

Water should not be allowed to stand around the trees; open surface drains whenever it can be done.

Cions may be cut at any time during mild days. Label every variety with great care, and preserve them from drying by burying in earth in the cellar.

If it is intended to plant trees in the Spring, send to the most reliable nursery within reach for catalogues, and send in orders to be filled at the proper season, or, what is vastly better, go in person if possible to do so, and select the trees. Consult freely with fruit growers in the neighborhood, and find what has been their experience with the different varieties. Avoid novelties, or at most touch them cautiously. Give irresponsible tree peddlers a wide berth. When the condition of the soil will permit, it is well to open the holes for trees to be planted next Spring, as the action of frosts will ameliorate and improve the soil. The nurseryman will probably be unusually busy next Spring, and he should have an ample supply of labels, packing materials, and every thing that will facilitate his operations.

Let every farmer follow our repeated advice to make a permanent map of his orchard and mark the place of every variety. Labels soon perish.

Manures should be procured and hauled to places where they will be needed for use in the Spring.

Root grafting may be done. See plain directions for the operation on page 20, of this paper.

Kitchen Garden.

A gardener's immediate work is always done with a view to future results. He plants and sows, and then awaits the returns. Give the comparative leisure of the present season to thinking and planning to be realized at a future day. Everything that can done now to save a day's or an hour's work in the busy spring months should be done. In market gardens especially, a few days earlier or later often decide the success of a particular crop. Now is the time to determine what to sow and where to sow it, as well as to provide seed in season. The new stock of the seedsmen is usually ready by February, and it is well to get a supply at once, as desirable kinds are often soon exhausted.

Cold Frames, will need care, giving air whenever the weather is mild, and extra protection when it is severe. Have shutters, straw mats, or even old blankets and comforters at hand, to throw over during a very cold spell. Bank up the frames as another security against cold.

Hot Bed Frames and Sashes.—Make all ready in time; strengthen old frames; glaze and paint sash, and if new ones are required, have them made in season. If a stock of fine rich mould is not ready, secure it at the first opportunity and keep under cover, otherwise when wanted for the beds it may be frozen or too wet.

Manure.—Abundant manuring is the secret of good gardening. "Get all you can and save all you get" should be the rule; add muck to the barn-yard, privies and piggeries, and thus increase the supply. Manure may be drawn to where it will be needed.

Poles for beans, brush for peas, and stakes of all kinds should be cut while the swamps are frozen. It is poor management to wait till they are needed.

Seeds.—See that no mice have access to them. Keep none of doubtful quality.

Tools.—Make all needed repairs, and if you have never enjoyed the comfort of a tool house, arrange a place where every implement shall have its assigned place, and keep it there when not in use. It will save a deal of vexation

Fruit Garden.

It is presumed that all required winter protection has been given. If the grape vines have not been laid down, remove them from the trellises and cover, the tender kinds at least, with earth. The perfectly hardy sorts will be more fruitful if simply laid upon the ground without covering, than if they are left upon the trellis and exposed to the action of the cold winds. See that the covering of earth given to raspberries is not washed away by heavy rains. Manure may be put around the roots of trees when the ground is not frozen. Make plans for new plantings, and consult catalogues and send in orders to nurserymen as soon as the selection of varieties is determined upon.

Flower Garden and Lawn.

The work here is mainly in-doors, and the brain rather than the hands are engaged. The winter months are the time in which to project improvements. We have so frequently suggested the necessity for working from well matured plans drawn on an accurate scale, that it must be well impressed upon all our old readers. To new ones we say, if you design any improvements, make them first on paper, where they can be more easily altered than when done hap-hazard upon the ground. Shrubbery which is too thick can be thinned, and where trees are so crowded as to interfere with the development of one another, the least valuable should be removed. In favorable seasons some work can be done at making walks and drives. For a thoroughly made walk or road way, the earth should be removed to the depth of two feet and a foundation made of large stones, filling up with small ones, and finishing off with gravel, which is to be well rolled. Have a supply of stakes and labels ready for spring use. Jar the evergreens after a heavy fall of snow, and free the lower branches from snow drifts.

Green and Hot-Houses.

In the green-house, where plants are kept in a state of rest only, the temperature should be as even as possible. It should never get higher than 50° or 55°, nor lower than 35°. Plants kept here will require ventilation whenever the weather is mild, and but little water. Cleanliness should be observed, and all decaying leaves removed. In houses where growing plants are kept, the temperature should be regulated according to the nature of the collection—65° to 75° being that which suits the majority of plants. The heat may be allowed to fall somewhat at night, but sudden changes and extremes are to be avoided.

Bulbs.—Hyacinths, etc., should be brought from a cooler to a warmer place, a few at a time, in order to keep up a succession.

Camellias.—Syringe the foliage and give more water to those commencing to grow. They require plenty of ventilation, as they are apt to drop their buds in a confined atmosphere.

Cactuses.—During winter these require but very little water; keep in a dry part of the house.

Calceolarius.—These are among the chief ornaments of the house at this season. To get a good bloom the drainage should be perfect. Shift growing plants to larger pots as soon as they need it.

Carnations.—Start cuttings for plants for summer blooming. They strike best in a rather cool place.

Fuchsias.—Cut back old plants to a good shape and re-pot them in good, fresh soil.

Insects.—These are now propagating rapidly, and the aphides, mealy bug, and red spider—the gardener's particular annoyances—demand attention. Thorough syringing will destroy many, but it may be necessary to persuade some of them to leave with tobacco smoke, whale oil soap, and the like.

Oranges and Lemons.—Give water sparingly and keep them in a cool but light part of the house. If affected with scale wash the trunk with soap suds.

Petunias and Verbenas.—Encourage them by shift-

ing to larger pots and bringing to the light, and a finer bloom will soon repay the trouble.

Shutters.—Now that fuel is so dear, much may be saved by the use of shutters, which can be kept on during nights and excessively cold days.

Ventilation must be provided whenever the outer temperature will permit. In cold weather avoid a draft and ventilate at the top of the house only.

Water should always be soft, and of the temperature of the house. Give freely to most growing plants. Succulent plants need but very little extra moisture as their leaves evaporate very slowly.

Apiary in January.

Prepared by M. Quinby—By Request.

At the commencement of cold weather, the bees crowd closely together, in order to keep warm,—the whole colony often occupying less than one quarter of the combs. The cluster is in that part of the hive where there is no sealed honey, where the combs are thin, and where there are many empty cells, into which the bees creep. They pack themselves more densely as the weather grows colder. During this month many small swarms usually freeze to death. The larger ones generate moisture, that gathers on the sides of the hive and on the combs. Protracted cold weather will often cause this moisture to freeze, so that no combs or honey outside the cluster of bees can be reached by them. When they have consumed all the honey contained in the few open cells within the cluster, if this state of things continue, they must starve. Moderate weather usually supervenes in time to save them; but if it does not, the hives should be taken to a warm room for a short time, to melt the frost and give the bees an opportunity to reach the honey. The sun being allowed to strike the hive, will dissolve the most of this frost, even in severe weather. Some care must be observed that it does not run to the bottom and freeze again, and close the air passage. Raise the hive occasionally, at a time when there is no frost, and sweep out dead bees, dirt, etc. When mice have gained access, it may be known by the nibblings on the floor of the hive. They should be excluded by the means recommended last month. Sweep away snow from the alighting board lest it choke the entrances, except where sufficient falls to cover the whole hive, for then it will efficiently protect it from the cold. Bees in the house will only need looking to occasionally to see that no mice get at the hives.

Ventilating Corn Cribs.

"Farmer," Loraine Co., O., writes to the *Agriculturist* that a corn crib should stand well up from the ground, and be built as open as possible, so that the ears do not fall out, especially at the bottom. To provide thorough ventilation, when filling the crib, place billets of wood three to four inches in diameter, and two to three feet long on the floor of the crib, each directly over a crack or auger hole. As the corn rises, draw up the billets a few inches at a time, keeping the upper ends above the corn. When the crib is filled, take the blocks entirely out, but before doing so, place a few ears in position to prevent sliding in at the top. Every opening will remain as an escape pipe for moisture. In this simple manner good corn may be saved from becoming musty.

Tools for the Workshop.

"What tools does a green farmer want, who is something of a mechanic?" This question is asked by a young and not very green farmer, who perhaps wants to draw out the *Agriculturist*, on a hobby. For *one* the writer does not feel independent unless he has the means to do almost any little job of repairing that "turns up" unexpectedly. To this end he needs a cross-cut saw and a splitting saw, each of large size, a good bench axe, a claw hammer and a lighter one, a bit-stock and set of a dozen bits, an inch, 1½, and 2-inch auger, a set of rasps and files for wood and for metal, several chisels and gouges of different sizes, mallet, a square and compass, and a plumb rule, a two foot rule, a 40-foot tape line, 2 planes, 2 screw drivers (one to fit the bit-stock), 1 gimlet, 1 drawing knife, 1 oil stone, 1 mason's trowel, a cold chisel and punch, and two vises—one having 3-inch, the other 1½-inch steel-faced jaws. With these and a carpenter's work bench, with a fixed vise attached, and a stock of nails and screws, one can get along very satisfactorily. There is occasionally furniture to be mended, and to this end one needs a glue-pot, a brad-awl and some brads. The tin-ware springs a leak now and then, and a soldering-iron (copper) and some sticks of soft solder, a lump of rosin, and a phial of soldering liquor (zinc dissolved in muriatic acid) are wanted. The harness gives way, or the seams in some leather work rip, and then one finds a little kit of saddler's tools, awls, wax, thread, some lace-leather, and a belt-awl, a rivet-set and copper rivets very convenient. A larger rivet-set and some iron rivets, with some hoop iron will enable one to make hoops for barrels, tubs and pails, without troubling the cooper. With brass, copper, and iron wires of various sizes, strong pliers, and cutting nippers, a vast number of broken things can be mended, and made strong as new. Now and then it happens that a horse is brought to the door with a shoe loose; anybody who can drive a nail, with a little practice can drive a horse-shoe nail; so add a few of these to the list. The light hammer will do to drive them, and a bit of iron a pound in weight, will serve to drive against in clinching. With the foregoing, one is quite above being annoyed by little accidents of that vexatious kind which cannot be provided against by any amount of foresight. Whenever there is real *work* to be done, always employ a mechanic.—"Ask us some more hard questions."

Spring Wheat Sown in January.

VALUABLE EXPERIMENT.—When an experiment is well tried, however much we may wish it to result so as to indicate profitable practice, we should remember it is equally successful as an experiment even if it shows that a certain practice will not be profitable. J. W. G. of Rockton Co., Ill., writes: "One of the correspondents of the *Agriculturist* wishes some one to communicate the results of sowing Fife Wheat in the Fall. I had a favorable opportunity to try the experiment, and on the second day of Jan., 1863, the ground being open, I sowed two bushels and one-half on a little over an acre. The ground was plowed, sowed, and dragged the same day; the *result* was the seed all rotted; none of it ever came up. Some of my neighbors have sown this wheat late in November, but in no case has it done any better than when sown in Spring, and often not so well. A coat of snow must lie on it all Winter to insure its success in any degree."

Notes from the Fruit Growers' Meeting.

Pruning Apple Trees—Keeping Grapes—The Diana Grape—Grape Culture—Knox's System—Manuring, etc., etc.

The weekly meetings of Fruit Growers at the *Agriculturist* Office, continue to be well attended, and much valuable information is elicited in the discussions. They are simply free conversational gatherings, where all who find it convenient, drop in and hear and talk about fruits and fruit culture, and exhibit any specimens they desire. The sessions last from 1 to 2½ o'clock on each Thursday afternoon. We have space for only a few condensed notes. At one of the meetings A. J. Coe, of Conn., asked for information as to the best hight for pruning apple and pear trees.

Dr. Ward said that if the branches are low, they are depressed each year with the weight of fruit, until they trail upon the ground. He trims his trees so high that the ground can receive a shallow plowing, with a small horse—uses Share's harrow, which he finds an admirable implement for stirring the soil for two inches in depth. He considers it necessary to have the branches so elevated that every portion of the ground shall get the sun's rays during a part of the day. It is acknowledged that we have higher flavored fruit than is produced in England, which he thinks mainly attributable to our brighter sun and clearer atmosphere. If trees branch low, there is not sufficient sweep of wind to change the air under the limbs. Forest trees never develop themselves fully; it is only when a tree grows alone that it attains a perfect form.

W. S. Carpenter said Chas. Downing chooses low heads for fruit trees, allows them to branch two feet from the ground, and gives his orchard garden culture. For himself, he prefers pruning higher up, otherwise the lower branches will have to be removed subsequently to afford room for a man and team to go under the trees; besides he wants the sun to shine on the ground a part of the time;—one great fault in pruning young trees, is leaving too many branches, which thicken up to a close head.

Mr. Coe remarked that nature shut out much of the sunlight in forests, and still the trees grew well; hence he fails to see the necessity of sunshine upon the ground,—thinks it better to mulch trees than to plow under them.

Mr. Carpenter responded, a tree which grew in a forest was mainly upright, with few side branches. The cultivator wants to change this to a handsome, easily accessible head—he wishes to diminish the vigor of the tree, and increase the pulp of fruit, which is done by summer pruning.

Prof. Thurber said that the ground is generally of a higher temperature than the air, and, to get the best results in propagating, we apply bottom heat to plants. In too much shade, the ground would not absorb sufficient heat to keep it of proper temperature. Repeated observations show that the temperature at one foot below the surface, is two to three degrees higher than the atmosphere.

M. Coe thinks that the higher temperature of the ground is due to the internal heat, which increases as we penetrate the earth; that radiation reduces this warmth; and that low branching trees would, in part, check radiation.

To this Prof. Thurber replied that observations made at two feet below the surface, showed a lower temperature than at one foot, thus proving that the heat was due to absorption of the sun's rays.

At the last meeting, Dec. 10th, A. S. Fuller in the chair, and a large and intelligent audience present, the conversation turned chiefly on grapes. Rev. J. Knox, of Pittsburgh, presented specimens of finely grown and well kept Delaware, Concord, Diana, Isabella, Catawba and Herbemont grapes, and samples of Delaware wine.

Mr. Knox being asked how he kept grapes in such fine condition, replied that they were allowed to hang on the vines until quite late, then picked and put in boxes, two layers deep, with dry grape or forest leaves between them. They were kept in a cool, dry place, out of the reach of frost. Diana keeps remarkably well, also Herbemont.—Concords have now been ripe three months. Thinks he can keep grapes until the strawberry season. No unripe or imperfect berries should be left on the clusters.

To the inquiry whether the Diana flourished at Pittsburg, Mr. Knox replied that it was very satisfactory with him. He attributed the partial failure of the Diana to two causes, viz., lack of winter protection, (it not being entirely hardy,) and want of pruning. He removes his Dianas from the trellis in November or early in December, prunes heavily, and covers them moderately with earth. Without this strong cutting back, they overbear. Can cover an acre of vines for $10.

R. W. Holton finds small and somewhat imperfect clusters on his Dianas the first year of bearing; the second year they do better; but they do not attain perfection, with broad-shouldered bunches, until the third year.

Mr. Carpenter thinks Diana is a good grape; does well under favorable circumstances; but requires so much care that it will never become popular with the people.

Mr. Knox thinks the peculiar treatment required by a really good grape, should not condemn the sort. With the conditions named, the Diana proves a valuable grape, and one well adapted for wine.

Mr. Fuller wanted to know why there are no vineyards of the Diana. It is a much older sort than the Concord, yet there are hundreds of acres planted with Concord.

Mr. Knox thinks grape culture has been injured by its friends who advise great expense in preparing the ground; some of them advise to stir the soil three and others four feet deep. This is a useless expense, and positively injurious to the vine. From Longworth and others we had learned that foreign sorts were not adapted to our climate, and we are now learning the equally important lesson that foreign modes of culture are also to be discarded. Fifteen to twenty inches is as deep as the soil need be stirred. If worked much deeper, and manured heavily, the vines grow too rampant. He gave a brief description of his method of pruning, beginning with the newly planted vine, which was cut back to two or three eyes. The second year he cuts out all but one cane, and the next Fall cuts that back to three eyes. These produce three strong fruiting canes for the third year, two of which are bent to form the arms, and the middle one trained upright. The trellis is not erected until the third year. The vines will each mature 10 lbs. of grapes the third season, and throw up canes for future fruiting. The process then consists in cutting out each alternate upright shoot every year, which leaves four bearing and four growing canes to each vine—the vines being six feet apart, and the uprights about nine inches distant and eight feet long. (They are fastened to upright slips of wood, as explained on page 116 of the April *Agriculturist*, 1863.—Ed.) During the Summer the new growth of the spurs is pinched in, retaining as many leaves beyond the last cluster as there are clusters on the spur. He has had no experience in spurring down to single arms, which he thinks does not afford sufficient room for our rampant growers, that if left to themselves would cover a tree 100 feet in hight. Prunes in November.

Mr. Fuller has practised this method—double spur pruning—for some years, and approves it.

Mr. Knox replied to a question concerning fertilizers, that he did not manure heavily, and uses only that from the stable, applying it near the *surface*. He cultivates strawberries between his grape rows, and makes them pay all expenses of the vineyard.

Dr. Ward attaches great importance to surface manuring. His own orchard has already been fertilized for next season, by spreading manure upon the surface.

Mr. Fuller says 15 to 18 inches is sufficient depth for the vine; his greatest trouble is to check the growth.

Containing a great variety of Items, including many good Hints and Suggestions which we give here in small type and condensed form, for want of space elsewhere.

Send in the Items.—The multitude of subscription letters now arriving contain many hints, suggestions and queries. Let them come—the more the better. We will work them up into useful items as rapidly as possible; some have been necessarily crowded over this month. Every item for the Editors, should be on a separate sheet from business matters, and this sheet always contain the date and the full address of the writer.

Important to Canadians.—We are happy to announce to our readers in Canada, that the Post Office Department at Quebec has issued a circular, dated Nov. 24, 1863, allowing the passage through the mails of "seeds, cuttings, bulbs, roots, and cions or grafts," at *one cent per ounce*, prepaid, in packages of not over one pound. When received from the United States, the one cent per ounce is to be paid by the recipient, in addition to the same amount of postage prepaid here. This is very important, as it will admit of our sending seeds and plants to our Canada subscribers without the danger of their being taxed $3.20 per pound, though prepaid here, as has often been done. Our strawberry plants can now be sent to Canada subscribers the same as to others. Books go at the same rates. After making a few inquiries about particular items, we will give full information next month.

Special Announcement to Advertisers.—We wish it to be distinctly understood by all parties concerned, that we have not altered the rule heretofore laid down by us in regard to advertisements, viz.: The proprietor of this journal reserves the right to reject any and all business cards that he does not approve or desire for *any* reason. Nothing of an unreliable character is wanted and nothing received from those unknown to us personally or by good repute, unless proper references are furnished. This does not refer to their paying us, (the terms are cash in advance,) but to the question whether the readers will be fairly treated by them.

News in the Advertising Pages.—An intelligent subscriber to the *Agriculturist* writes: "I always read the advertising pages to keep posted in general information." He is right; the columns of that department show what the wide-awake business classes are doing. We call attention to their cards with pleasure, from the fact that the advertisers, so far as we know, are worthy men, who will do what they promise. (We have rejected more advertisements than are inserted this month, selecting only those believed to be of good character.) There is no distinction in place—the arrangement of the pages being at the convenience of the printer, who classifies those in type when he is making up. Those on the last pages are as likely to be important to the reader, as those on the first pages, and *vice versa*. We repeat the standing request, that in writing to advertisers, with orders, or for circulars or information, they be informed *where* their business announcements were seen. This gives them satisfaction, and is advantageous all around.

The "Five-Twenties" Nearly Gone.—We have already referred to the gold-bearing 6-per-cent. U. S. Bonds, as one of the most desirable investments for any sums of from $50 upward. There were five hundred million dollars to be issued, of which probably less than fifty millions will remain unsold at the beginning of 1864. This is both a patriotic and profitable investment, we think. All needed particulars are given by the Government Agents in our advertising columns.

A New Railroad Line to the West has recently been opened, by the completion of some 200 miles of the Atlantic and Great Western R. R. from Salamanca on the Erie R. R., westward, via Meadville, Pa. This is part of a broad gauge track all the way from New-York City to St. Louis. The line is so far completed that cars will run through within a few months. We were sorry to be compelled to decline a courteous invitation to join in the festivities of an excursion to Cleveland, the latter part of November. A friend who took our place, furnished a lengthy and interesting account of the pleasant trip, but we have not room to publish it.

Above-Ground Cisterns.—L. Pierce, Chautauqua Co., N. Y. If you use straw in your barn, and so have a warm place to set the cistern, and can perhaps use a little spare straw around the cisterns besides, or if your barn is a *very tight* one and the number of stock you keep, takes off the chill from the air so that water seldom freezes, then you may with safety put up a cistern in your barn. Otherwise we advise its being set in the earth. Accidents from frost, most provoking in their character, often occur if cisterns are exposed.

A Wagon Question.—David Williams of Winnebago, proposes the following, to draw out information: "Suppose that of two wagons, made alike and of the same weight, one has iron axles, and the other what we use, 'thimble skained,' the axles of both worn smooth—would there be any difference in the power required to move them empty? Also, what would be the difference in power required, if any, supposing both were loaded with 40 bushels of wheat (2,400 lbs.)?"

Raisins.—Subscriber, Ottumwa, Iowa. The Delaware contains sugar enough to form raisins, but the seeds are so large in proportion to the pulp, that the fruit is of little value when dried. We have no good raisin grape.

The Adirondac Grape—A Correction.—The Horticulturist for November in speaking of the prize awarded to this grape at the October exhibition, says: "It must be borne in mind that the prize was for *flavor* alone, without regard to earliness, size, or anything else but this." The Adirondac was entered under Class II, of the schedule, which says: "For the best 5 bunches of native grapes of any kind, *quality* to rule, $2," and it received the prize over all others offered in this class. If *flavor* instead of *quality* had been the test, the rest of the committee would doubtless have agreed with Mr. Downing. These terms are often used as synonymous, which leads to frequent confusion.—We have no interest in the Adirondac, or any other grape, beyond the desire to have every candidate for public favor stand on its own merits. Every new variety of fruit is a long while in reaching its exact place in the scale of quality. While we consider it our duty to bring all new fruits of promise to the notice of the public, we are not committed to the productions of any one person, but hope to see the day when we shall have a grape superior to the Delaware, Adirondac, Concord or Iona.

Constitutional.—D. P. Young, Scott Co., Md., asks if we have the constitution of any Horticultural Society to serve as a model. We have several, but they are in bound volumes. They merely define the duties of the different officers, and fix the terms of membership, leaving details to the Executive Committee. In such societies a few earnest people do all the work, and the less they are hampered by rules the better.

Plants for Names.—James Strong. Your grape is the Frost Grape, *Vitis cordifolia*...A. B. Parmelee, Wabash Co., Minn., sends *Calopogon pulchellus*, which may be translated "beautiful-beard flower"—one of our finest orchids.

Inquiries about Seeds.—Samuel E. Cooper and Geo. B. Roach.—We cannot find that the seeds are to be had in this city. Seed catalogues are out by Feb. 1st, and those interested should send to the dealers. The advertisements of the principal seedsmen are in our columns at the proper season, some of them now.

Seeds Received.—J. Ellsworth, Washington Co., Ill. Those sent as "Flowering Locust" are probably of *Cassia Chamæcrista*. The plant called "wild petunia" is not recognized; send a flower.

Lice on Cauliflowers.—C. E. Phelps, N. Y., is much troubled by lice on both early and late varieties. We should try salt upon them. Can any one suggest a better remedy?

A Large Onion.—Wm. N. Byers, Editor of the Rocky Mountain News, at Denver, Colorado, sends us an onion, which weighed two lbs., and this was not his largest. It was from Mexican seed, which seems to produce large onions with him, but if brought East only yields them of the ordinary size. It is by means of irrigation that these immense vegetables are raised in Colorado Territory.

Soil for Small Fruits.—"D. D. L." A good deep loam, which is well worked to the depth of 18 inches to two feet, will suit small fruits of all kinds. If not naturally drained, provide for it by artificial means.

Some Pumpkins.—Silas C. Herring seems to be as successful at raising pumpkins as he is at manufacturing safes. A few days ago he deposited at the *Agriculturist* office a specimen weighing 30 lbs.

Utter Apple.—Thos. D. Plumb, Madison, Wis.—Apples and cions received. The apples were past their prime, but gave evidence of fine quality, while the handsome form, and red color will doubtless make them a good market fruit. It is an Illinois seedling, unknown at the East.

The Sunday-School Question-Books No. 1 and No. 2, are believed to be worthy the attention of all Superintendents and Teachers, hundreds of whom have written in the highest commendation of them. They each contain 52 lessons, averaging 7 to 8 verses, taking up the more important events of the New Testament in the order of their occurrence. A running history of the intermediate events, with the notes, etc., give these books the character of a combined *history, chronology, commentary, text-book*, and *question-book*. No. 2 is designed to follow No. 1, but it may be used independently. The price of either book is 10 cents per copy, and 3 cents each extra, if 10 or more go by mail. If sent by mail pre-paid, the rates will be as follows:

1 copy, 14 cents	4 copies, 52 cents.	7 copies, 90 cents,
2 copies, 28 cents.	5 copies, 66 cents.	8 copies, 1 01 cents,
3 copies, 42 cents.	6 copies, 80 cents.	9 copies, 1 18 cents,

Dr. Hart's Opinion of the Above Works.—This eminent gentleman, the long-time Principal of the Philadelphia High School, gave the following unsolicited notice in the Sunday-School Times, of which he is Editor: "We have just been examining a little book published by the Editor of the *Agriculturist*, called 'Lessons for Every Sunday in the Year,' and have risen from the examination with a feeling of thankfulness that such a book has been made. We have never seen a Question-Book that contained so many conveniences and advantages as this—so many excellences, both positive and negative....The author of the plan is a life-long Sunday School man, and this book is the fruit of the experience of himself and some of his friends in trying to meet the practical wants of the Sunday School. *Like all good text-books, it has grown out of actual necessities and experience; it is a growth rather than a work.* We advise every Superintendent to send at once for a copy."

A Neat Sunday School Medal is offered in our advertising columns, by J. C. Garrigues & Co., of the S. S. Times. We have examined a sample of the gold one, which would doubtless prove a valuable souvenir or keepsake to any child so fortunate as to obtain one as a reward of good conduct and diligence. It is about the size of a double-eagle gold coin, neatly embossed with a Bible, wreath, etc.

Youmans' Class Book of Chemistry.—This new book of 460 pages, we have read entirely *through*, and we advise every person at all acquainted with Chemistry, to get and read it. It is laboriously prepared, full of facts and principles packed closely together, embraces the latest theories and discoveries, and is written in the lively, interesting, and vigorous style that characterizes Prof. Youmans' popular lectures. Though charmed by the work, we are in doubt whether to recommend it as a school book, except for adult classes in academies and colleges. We fear that children of only ordinary mental ability, and others entirely unacquainted with the science, would find this too strong meat. It would require considerable previous knowledge of science to enter understandingly into the discussions of the first part of the book. All teachers should have and read it, to obtain facts and illustrations, and to bring themselves up to date in a science which is rapidly developing, and outgrowing many of the theories of but yesterday. We think Prof. Youmans should prepare a preliminary elementary book of half the size, and less than half the amount of matter—one beginning with simple facts and experiments, and gradually leading the mind on to principles and theories—keeping all the while in view, that though strong adults march off with long strides, the uneducated mind, no matter what its years, must take short steps. The above class-book contains over 300 engraved illustrations. Price $1,25 by mail or otherwise.

Disreputable Business.—Several subscribers, mostly Postmasters, forward to us copies of papers, called the "New York Atlas", the "Lansingburg Gazette", and the "New York Weekly Casket", which are sent out in packages to Postmasters, with enclosed slips requesting them to distribute the papers in the post-office boxes, as sample copies, "to help increase their circulation." An examination of the said papers show them to be mainly filled with advertisements of quacks who pretend to great skill in any certain diseases. If the publishers of these papers lend their sheets for such humbugging, they are in the very disreputable business of helping to swindle the people. Postmasters should report to the department at Washington all such papers coming unpaid, and burn up all that come prepaid, if undirected

Swamp Muck—"What Preparation Does It Need?"—This is the burden of several inquiries to the *Agriculturist*. Some muck may be hauled out upon grass land, so soon as it is dry enough to be spread evenly, and no bad effects will be noticed. Other kinds need to be exposed to the frosts and thaws of Winter, to be, as some farmers say, "sweetened." But in general it is best to dig the muck when the ground admits going to it in Summer or in Winter, draw to some convenient place, let it freeze a few times, and compost it with slaked lime, wood-ashes, or lime slaked with brine, etc. To this may be added any manurial substances not containing ammonia, and even these may be used after the compost has stood a month or two and been thoroughly worked over once or twice. Or without adding lime or ashes, the weathered muck may be composted with animal manures, urine, night-soil, or the like. Thus it will be found of much more value than in its raw state. There is no better absorbent of liquid manure for the stable or barn-yard.

Canada Thistles Again.—To several inquirers. There is nothing to be added to what has already been said upon the destruction of this pest. We are convinced that persistent mowing will finally subdue them. One correspondent writes that he succeeds best by allowing them to grow until just about to flower, and then cutting them down.

"Make" Land by Burying Stone.—"L. L." writes to the *American Agriculturist*: "Almost every body has noticed in his own experience, that *made ground*, as it is called, if the soil is only tolerably good, produces most luxuriant vegetation; yet how few act upon the hint. Neighbor D. has just been removing the surface stones from his field by drawing them away perhaps a quarter of a mile. Why didn't he open the ground a little and bury them? It would have taken no more time, and every ten feet square of land which he had thus *made*, would have been at least doubled in value. Never shall a loose stone be carried off my meadow," [Stones only make soil, by their decomposition, effected by frost, and atmospheric influences. If sunk in the soil decomposition will not go on. Crumbling granite or other felspathic stones add potash to the soil and thus enrich it.]

Ditching Plow.—F. A. Renz. We are not acquainted with the plow you refer to. Parties having such an implement, if good, would do well to advertise it.

What Kinds of Drain Tile to Use.—C. G. Packell, Randolph Co., Indiana. Former volumes of the *Agriculturist* have discussed particularly the uses of various forms of drain tile. In a good firm "gravelly hard-pan," or any really *hard*-pan not readily pervious to water, the horse-shoe or n-shaped tile does very well without a board to stand upon. On steep falls where a large quantity of water runs, it is safer to set these tiles on boards. The *sole* tile will admit all the water that can run through them, and so will the round tile. Of these two sorts, the round tile is now much used for lateral drains, and every tile-maker should get dies for them. They require a little more care in handling to preserve their form perfect. The sole tiles are heavier and more expensive. But they are valuable, when the ground is likely to wash, and where round tile might be easily displaced.

Size of Drain-Tile to Use.—Few people who begin to lay tile-drains realize the importance of having small lateral or minor drains. Two-inch tile is as large as are ever necessary, unless living springs are to be conducted off; and where the drains are not longer than 150 feet, 1¼-inch round or pipe tile or sole tile will answer perfectly well, provided the fall be as much as two or three inches per rod, and the joints and openings be so tight that mice, moles, or toads, cannot get in.

Bad Habits of Horses.—"M. B. P.," Schuyler Co., N. Y., has a 3-year-old mare which has the bad habit of hanging her tongue out when the bit is in, and asks for a cure. It is probably a coltish trick she will get over. Such are not uncommon. Try putting a little pulverized aloes on the tongue as often as you can find it out, or hitting it with a riding-whip.

Mutton Sheep.—"J. H.," New-Jersey.—Considering hardiness, excellence of the mutton, early maturity, and fair quality of the wool, the preference of the *Agriculturist* has long been for the South Down sheep. To breed large early lambs, from good sized common ewes, the use of a Cotswold or other long wool buck may be desirable—though butchers are very fond of the dark legs and faces which show the South Down cross. The Long-wools require more care, and will usually yield more weight of wool from the same amount of feed.

Cross for Fine Wool.—The best cross for a flock of common fine wool sheep is no doubt the *American Merino*—whose blood is of Spanish origin. The constitution of the breed and fineness of the wool is all that can be asked. Select French or American bucks with reference to quality of wool, size, and constitution.

Richness of Milk in Cream and Cheese.—Luke Hoxie, of Madison County, N. Y., reports to the *Agriculturist*, experiments with the milk of a herd of 16 cows, by which he finds that the milk richest in cream also makes by far the heaviest curd.—We regret that he did not repeat the experiment two or three times for the sake of accuracy, and extend his observations on the comparative amount of cream and the weight of the curd to the milk of each of the cows.

More Butter.—Hanson Gardner, of Rensselaer Co., N. Y., writes that from four old cows and two 2-year-old heifers, he made and sold 1360 pounds of butter last year, besides what was used in his family consisting of three persons. This was 226⅔ lbs. for each cow. At 25 cents per lb., which is less than prime butter is now worth, it would amount to $56.66 per animal.

Sugar in Sorghum Bagasse.—The statement from "Prof." Mot which has been going the rounds, that the cane refuse (bagasse) will yield under certain treatment a great additional quantity of syrup, we give no credence to. Bagasse from a good mill, well worked, contains but a very small proportion of sugar. The important question is: If worked upon a large scale, will it be possible to get *any* marketable cane sugar?—that is, sugar which will crystallize and make a table article. We have never seen a pound of *such* sugar that we *knew* was made from sorghum. This does not invalidate the value of sorghum for syrup.

The Spinning Wheel and Cheese Press.—Gradually one employment after another is taken out of the hands of women-folk, by the innovations of machinery and associated labor. Our grandmothers spun and wove, made up, and wore the wool of their own flocks. Our mothers spun, but they did not weave; our wives barely recollect homespun; they *can* make up their own garments—but now-a-days, little is left for our daughters to do but wear them out. Every thing else is done by machinery and factory labor. The labors of the dairy are going the same way, and for aught we can see, a home-made cheese will be as rare a sight in a few years as home-spun-and-woven linen is to-day. When that day comes, and even now perhaps, we may congratulate ourselves that the employments of the dairy are discovered to be unhealthy, and ruinous to the constitutions of the poor women who engage in them—in the family, not in the factory—according to X. A. Willard's recent brochure, in which he attributes "overtaxed muscle, incessant care without relaxation, disease, broken health, and premature old age," to the labors of the dairy.

Leaky Roofs.—John Wheelan, Jefferson Co., Wis. writes that the cracks often opened between a wing or rear addition and the main building, may be effectually closed with paint skins or the scrapings from old paint pots, prepared as follows: Boil them in a little linseed oil, stirring them frequently, making the mixture about the consistence of hasty pudding or mush. Apply it while hot with a small paddle, and it will soon harden. The application may need to be repeated once or twice.

Color of Houses.—J. A. S., Grandsville, Md. In matters of taste it is difficult to advise. Presuming that the house is to be some other color than white, our method would be to paint the window frames, etc., some shades darker than the body of the house, and the sash very dark. For out-buildings a similar color, but one that would be as little conspicuous as possible.

Cheap Paints.—The essential part of all good paints, properly so called, is Linseed Oil. Oil if well boiled, may be applied alone, and affords an excellent protection to hard wood and implements, and upon floors. Sundry substances ground very fine, are used to mix with the oil, and in proportion as they thicken the oil and form an opaque coating, they are said to possess "body." A pretty good, cheap paint for outside work is made by mixing plaster of Paris with white lead, or zinc-white, and grind them together in a paint mill with oil. Plaster alone may be used, and it is said to form a durable and very cheap paint. Of course any color may be given which is desired.

Cleansing Tainted Barrels.—John Wheelan, Jefferson Co., Wis., directs to throw about four quarts of bran into a tainted barrel, pour a pailful of boiling water upon it, and leave it covered for half an hour. Then scrub the barrel thoroughly with a broom, rinse it well with cold water, and it will be found sweet. This may answer where there is only a slight taint, but we should judge some stronger treatment necessary in most cases. A thorough soaking with strong lye from wood ashes, or putting the ashes in with hot water, or using lime, we should judge to be effective. The *safest* remedy was recommended by a cooper—buy a new barrel

What Pears to Plant.—Wm. Howel, Decatur Co., Ind. There is a list of select varieties on page 17 (Jan. *Agriculturist* 1863), which will serve for a general guide—to be modified according to the experience of your neighbors. Varieties very good in one place, often fail in certain other localities without any assignable cause, and it is only from one's own experience or that of others near by, that he can ascertain with at solute certainty what sorts are adapted to his soil and climate.

Tarred Paper Around Trees—A Caution.—J. C. Fenn, Litchfield Co., Conn., writes to the *American Agriculturist* that he has used sheets of tarred paper tied around trees to keep off rabbits in Winter, and injury has been done by ice accumulating upon the bark under the paper. Care should be taken to arrange the covering, so that little water can enter.

Nebraska Plums.—R. O. Thompson of Otoe Co., Nebraska, says of the wild plums of Nebraska: "I have 8 fine varieties of good qualities (some as large as the Jefferson), of various colors, forms and times of ripening. For four years they have stood near Jefferson, Kirk's, and Coe's Golden Drop, and the Curculio has never injured a plum upon them, while the varieties named have been invariably destroyed, or at least it required much labor to get a single specimen of Kirk's to remain on the tree." We would like some cions, though we should fear that a plum which would resist the curculio here, would not be particularly valuable as a fruit. Thanks for the seeds.

The Scale on Trees Again.—Quite a number of remedies have been proposed by correspondents, and published in the *Agriculturist*. Here is still another from a New Jersey subscriber, who "took *some* lamp-oil, and a *little* soft soap," and applied it to the tree with the effect of killing the scale and removing the moss." The proportions are not very definitely given

Grafting the Apple on the Crab.—"M. S. S.," Lyndon, Vt. It is not probable this would render the apple any hardier to withstand your Winters

Evergreens and other Trees for Prairies.—Buel Sherman, Chickasaw Co., Iowa. Do not think of moving the evergreens until late in Spring. Oaks, hickorys, and other hard woods can only be successfully grown when the seed is planted where it is to remain. Even in favorable climates they need to have, while young, the protection of other trees, or to be planted so thickly that they will shelter each other. The thick plantings are gradually thinned out until the trees are of proper size to grow for timber. No doubt that any hard-wooded trees which will stand the climate, may be raised in Iowa, if protected thus during early growth.

Pruning Roses.—Mr. S. P. Adams, Hampden Co., Mass. The remontant roses are best left until Spring. Then cut out the weak and the crowded shoots and shorten the others to three or four buds.

Strawberries.—Wm. Howel, Decatur Co., Ind. Wilson's Albany is considered good for putting in cans, as it is firm and quite acid. A crop can not be expected from plants set next Spring. Fuller's Strawberry Culturist costs 12 cents by mail and Barry's Fruit Garden $1 50. We can not particularize nurserymen, those who advertise in our columns are believed to be reliable.

Large Yield of Squashes.—Wm. A. Hart, Middlesex Co., Conn., raised on only ¼ by 10 feet, *sixty* Boston Marrow squashes weighing 618 pounds

Asclepias Fibre (*Milkweed*).—C. F. Bigham, Tolland Co., Conn. Specimens of fabric made of this and part cotton, were shown at the late fair of the American Institute. As they were enclosed in a glass case, we could not form any judgment of them, and have not the address of the exhibitor. This is the only attempt we have seen to utilize this very abundant material.

Botanical Journals.—"A. E. E.," Illinois. There is no botanical journal published in this country. Silliman's Journal has a botanical department,

under the care of Prof. A. Gray, which posts up the botanical news. If A. E. E. will send us his full address, we shall be glad to communicate with him.

Vitality of Sprouted Wheat.—W. Watkins, Warren Co., O., writes to the *American Agriculturist* that wheat which has been sprouted by exposure during rain, is not entirely worthless for sowing. He experimented with 100 grains of grown wheat, under unfavorable circumstances, and 15 grains sent out sprouts. None of those grains grew, which had previously advanced far enough to throw out roots. However this may be, sowing such wheat would be wholly unadvisable, unless no other could be obtained.

Hoof-rot in Sheep.—Sometimes sheep exhibit symptoms of this disease when they come into winter quarters. It should be treated at once. Separate the bad cases; turn the rest into the thawing snow for a few hours, and then drive them slowly through a trough filled with a strong hot (not scalding) solution of blue vitriol. The trough should be 13 to 16 feet long, and the solution should be 4 inches deep in it. This will require about 6½ gallons to commence with. Meanwhile the shed should be cleaned out and fresh littered. The bad cases, after having the hoofs softened by the wet snow or grass, should have every particle of diseased horn and flesh removed, down to the quick, but not so as to cause bleeding, and then be subjected to the hot vitriol footbath, and made to stand in it longer than the rest. After about a week repeat the application upon the whole flock, without distinction. The symptoms of foot-rot very frequently decrease and almost disappear in cold weather to return in Spring and Summer.

A Wool Growers' Convention is to be held in Columbus, O., January 5th. Hon. H. S. Randall gives the address. All interested are invited to attend.

Chittagong Fowls.—A. E. Bates, Union Co., O., says that his experience with Chittagong fowls has not been encouraging. They were so tame as became a nuisance, requiring one person most of the time to keep them out of the dwelling-house. They would not hunt for food, and were altogether unprofitable.

Foul Brood in Bees.—J. T. Cooley, La Salle Co., Ill.—Foul brood in bees is a disease of the insect, while yet in the larva state, and of course before it emerges from the brood cell. If a hive be much infected, a noisome smell proceeding from the dead and decaying bees will reveal its presence. At its first appearance, it may be detected by the changed color of the larvæ in the sealed brood cells. These while living are white, but turn black after death. The origin of the disease is not certainly known. It is undoubtedly contagious, and no time should be lost in removing bees from a hive found infected.

Water Gap.—Several responses have come to Young Tennessee's question about a water gap. We shall give a few, with illustrations, in the next number.

Ends of Drain-Tiles.—"Greenhorn," Marengo, Ill. The upper end of a drain made of tiles should be closed, the lower end or outlet left open to discharge the water, but secured by a wire grating to exclude mice, toads, etc. The ends of the separate tiles are brought close together as possible; the water will easily find its way through the joints. Very full directions for draining were given in a series of articles in the *Agriculturist*, Vol. XX, (1861.)

Time to Prune Sugar Maples.—J. M. Woodruff, Sangamon Co., Ill. The growing season is the best time; probably May.

How To Treat Girdled Trees.—P. Schweizer, Waterloo Co., U. C., says that for trees from which the bark has been gnawed by mice and rabbits, he makes a plaster of cow dung and swamp mud, adding cow or horse hair enough to make it quite stiff. This preparation is spread upon a cloth and bound around the tree as soon as possible after the injury is discovered. He says he has never lost a tree if the application was made before thawing took place.

Grafting Nut-bearing Trees.—"J. K.," White Plains, N. Y., and several others, have asked about this subject. As already stated, flute budding has been used in Europe. This is done by removing a ring of bark from the stock and replacing by one containing buds, from a cion of the same size. We would suggest to those disposed to experiment to try herbaceous grafting, *i. e.*, to graft cions of new growth upon stocks of new wood. This is a matter upon which there is almost no reliable information, and we should be glad to hear from those who have succeeded.

Warts on Cherry Trees.—G. W. Battles, Trumbull Co., O. The only known remedy is to cut out the limbs thus affected and destroy them by burning. If allowed to remain they will infect other trees.

The Hartford Prolific Grape.—Hovey's Magazine impliedly calls our veracity in question, by saying that our remark that the Hartford Prolific will hold its fruit if properly pruned and not allowed to overbear, is "sheer nonsense." We simply reiterate the statement, and can prove it at the proper season, by showing the fruit which has been kept hanging on the vines into October. We wish the Magazine a long life, for what would the world do for horticultural wisdom, if it should "happen to die some day?" Its lease of life and popularity would be increased no doubt, if it put on less airs and acquired a little more courtesy and enterprise. This is a big world, neighbor, if Boston is its "hub." Try and be a little more cosmopolitan.

Moveable Grape Trellis.—W. B. Waldo, Dutchess Co., N. Y., proposes to make a trellis on the plan already given in our pages, but to have the upper part pinned to the posts in such a way that it can, with the vines, be laid in a horizontal position. This is not a new idea, as we have seen a model showing the same. It might answer for young vines, but the bend would probably be too short for old ones.

Borer in Peach Twigs.—W. W., Lafontaine, Ind. We are unable to identify the grub sent. Watch it and get the perfect insect and send specimens.

Russell's Prolific Strawberry.—H. C. Sigler, Clark Co., Iowa. We have not fruited this variety, but those in whom we have confidence, consider it one of the finest of the new strawberries. It can be had of W. S. Carpenter and other growers.

Fejee Tomato.—Loughsey, Alleghany Co., Pa. This variety is a week or more later than the common red, but bears abundantly until frost. It is cultivated in the same manner as the other, but the vine being more vigorous, we should set them further apart. Its culture as a market sort is increasing. It is a greater bearer and a better fruit than the common sort.

Investing in Patents—To Several Correspondents.—Frequent letters have been received by the propriector of the *Agriculturist*, describing various inventions made by the parties writing, and asking aid in bringing them before the public, by advancing money to pay for getting out letters-patent, etc. Usually an offer is made to share the profits, if such aid be furnished. Our business is to make a first-class agricultural journal; this leaves no time for such outside enterprises, and we cannot therefore spend time in investigating their merits, nor in personally answering letters on the subject.

Will it Pay to Advertise in the Agriculturist.—One of the most prominent seed dealers thinks it will. He says that he has no doubt that it will be to his interest to take all the money he expends in advertising and concentrate it upon the *Agriculturist*. He evidently knows how to reach the people.

"Over $500 for an Index."—Two or three subscribers were surprised (to put it in a mild form) at our statement last month, that the mere addition of 4 pages extra for the Index, cost over $500. They intimate that this was an error, or even something worse. We repeat, then, that the cost was *over* $550! The edition was just about 90,000. The paper was 5 lbs. per ream heavier than that commonly used in this journal. Please get a printer to estimate the cost, reckoning at the standard New-York City rates of 35c. per 1,000 ems for simple type-setting, and including 45 reams of paper, stereotyping, press-work, folding, etc. We do not reckon in the above sum, over $50 paid for *making out* the Index

Medical Humbugs.—"Private Diseases," "Confessions of an Invalid," "Physical Debility," "Marriage Guide," "Nervous Debility," "Warning to Young Men," "Cause and Cure," "Benevolent Association," "Howard Assocation," "Certain Cure," "Manhood Restored," "Essence of Life," "Medical Advisers," "Advice to the Married," "Early Indiscretions," etc., etc. Such are the expressions that shamelessly stare out in advertisements which are constantly admitted into not only the unprincipled City papers, but into otherwise respectable country journals, and, shall we say it? into some religious periodicals. We do not speak at random in saying that without exception, all these advertisements are not merely money humbugs, but they diffuse the rankest poison to the minds as well as the bodies of the young. No parent or guardian should permit one of these advertisements to even be seen by the youth under his care; better banish the journal containing them, or deface its vile pages before it goes into the family. This is not the place to enter into a discussion of the important subject of "private diseases." We hope Dr. Hall will take it up thoroughly in his paper, or in an extended "Health Tract." We will furnish him some letters, etc., on the topic, if he desires. His December Journal of Health contains a beginning, which it may be well for parents to read before consulting any of these advertising quacks. A dime sent to Dr. W. W. Hall, 831 Broadway, will doubtless secure a copy.

Frozen House Plants.—Miss F. A. Bronaugh, Clay Co., Mo., wishes to know what to do with plants which have been injured by freezing. Some very tender kinds will be killed at the slightest frost. Others of a more hardy nature will only have the succulent growing portion injured, and if severely pruned will start out again. Most roses will bear slight freezing without much harm. After the trouble has occured, the change to a higher temperature should be very gradual.

Scalded Cream.—Francis C. Cholvin, Vernon Co., Wis., requests some of the readers of the *Agriculturist* to furnish a recipe for making a dish called, "scalded cream," which he says is a favorite relish among the Cornish people. We are not acquainted with the composition, by that name.

Onion Culture.—The most valuable information to be found, in regard to all the particulars of onion growing, from the selection of the seed to the harvesting and marketing of the crop, is given in seventeen prize essays, from as many practical grower, published together in pamphlet form. Price 20 cents, post-paid.

Books.—"Subscriber," Crawford Co., Wis. The works may be had at the large book stores. We can not look up things entirely out of our line. Send such orders to Mr. Lane, or to any bookseller.

My Farm at Edgewood.—Donald G. Mitchell, better known as Ik Marvel, went upon a farm with the desire to enjoy country life, and with the intention to make it pay; he has recorded his experience in a most enjoyable book, with the above title. Those who take it up as a farm manual will be disappointed, though every farmer might draw from it many serviceable hints. To persons who have passed their lives in the city, and think of taking a farm, this work will be suggestive and useful. It is a common impression, among the inexperienced, that farm life is free from thought and care, and that stock and crops will in a great measure manage themselves. The tale of "hindrances and helps" so genially told by the author will serve to correct this mistaken notion. The book is enlivened by humorous touches, has its pathetic passages, and with a vein of strong common sense running throughout, it affords pleasant and profitable reading. Price $1.50.

Works On Propagating Plants.—John Arnold, Paris, C. W. McMahon's American Gardener, ($2,50) and Downing's Loudon's Flower Garden, ($1,50) give directions for the propagation of most green house plants—they are both in our book list. Parsons & Co., of Flushing, N. Y., can probably supply the plants.

P. J. Willis & Co. is a Humbug of course, who for effect assumes, as near as he dare, the well-known name of N. P. Willis, the author, and one of the publishers of the *Home Journal*. His letters, *dated* at Covington, Ky., but to be answered to box 2100 New York City, ought to deceive no one deserving to have the $10, which is so ingeniously and plausibly solicited by this lottery dealer. Will Mayor Opdyke please look after letters coming to "Box 2100?"

Humbug Sewing-Machine Companies.—The previous volume of the *Agriculturist* contained repeated warnings for our readers to be on their guard against swindling "sewing-machine companies." Letters from new subscribers—asking for information about this or that "Agency" from which circulars have been received, and whose advertisements appear in widely-circulated journals—call for additional notice of their operations. Briefly then, after considerable inquiry and investigation, we have been unable to find a single reliable company or "agency" among the many that send out circulars inviting the parties addressed to become agents. In these circulars splendid inducement

are made, statements of profits are given, and a large salary is offered; *but*, every one accepting an agency is required to first buy one of the machines at the retail price, and the promise is made that the discount for wholesale shall be refunded at the next purchase. Some who have caught at this bait, inform us that they sent their money, but have heard nothing further of it, nor of the promised machine. Others say the first machine, for which $10 or more was charged, came as directed, but it was not worth more than its weight in old iron. Of course they could make nothing by acting as agents for such trumpery, and they were obliged to pocket the loss. Well-established and reliable companies have their agents, but we know of none that send out circulars promising to employ whoever may choose to engage in the business. They select their men only after some acquaintance or guarantee of fitness. Beware of all such gilded baits: they invariably cover a *sharper steal*.

Humbug Mining Companies.—For special reasons, we omit giving this month the particulars in our possession concerning a "Mining Company," hatched up in Philadelphia by third-story self-styled "Bankers," who refer for their responsibility to unknown U. S. officers; to "cashiers" who have been discharged from their places months ago; to small potato "wholesale merchants" selling a few trinkets in an upper room in a small alley—etc. Any one who has money enough to pay for printer's ink, can get up (on paper) a splendid show for a "Mining Company," with blank forms for "Shares" on imitation of parchment, and too many of this class succeed in filching money from the unwary. Beware of *all* new Mining Companies, whose officers are not personally known to yourself or friends, and beware especially of those sending out circulars over the country.

Cheap Sewing Machines Again.—"F. M. L.," Rockford, Ill. The $15 machine referred to may answer a good purpose for several years, but it is a *pirated* machine. That is, no license is paid for the two or three patents involved in it, which are owned by other parties. Any person purchasing the machine is liable to have it taken away by those whose rights are infringed. This is one ground of our caution against purchasing "cheap machines." We know of no good machine, licensed to use the various patents held by several sewing machine companies, and requisite to accomplish the work satisfactorily, that is sold for less than $40.

A New Patent Fertilizer.—An exchange paper makes itself merry over a new manure it has seen advertised. It is said to be deposited by a bird with a grandiloquent name, from a southern ocean, which lives on electrical eels, and its offal contains ammonia and lightning combined in remarkable proportions. It recommends that, instead of waiting for a ship-load, in these perilous times, the farmers of a town or county club together and buy a few birds; for if one of them only flies over a corn-field, it will start the corn knee-high at a lick! Who wants a bird? They are very scarce as yet.

Hoove in Sheep.—L. R. B., Grant Co., Wis., writes the *Agriculturist* as follows: "What remedy is there for sheep that become bloated on fresh clover? About October 1st, I turned my sheep into rank clover, letting them stay on it but one or two hours twice a day. On the fourth day, after having been in an hour and a half, a nice two-year old wether bloated up, and died in a few minutes. The next day, after having been in one hour, a three-year old ewe was observed to be in pain; I immediately turned the flock out, and went to a neighbor's for advice, and when I got back (30 minutes having elapsed) the sheep was dead. I opened both sheep, and found the stomach a mass of fermentation, and inflated to its utmost capacity. The sixth day, and subsequently, the sheep remained in the clover, and no more deaths occurred." The remedy in such cases is to drive the sheep about actively. If the animal is in such pain that this cannot be done, an opening must be made through the flank into the paunch. There is an instrument called a Trocar which not only makes the cut, but forms a tube for the escape of the gases. Usually there is little time to wait, and the pocket-knife must be used. Make the cut through the flank near the backbone, just behind the ribs. The paunch will be seen distended, and pressing up into the flank; puncture it, making the animal lie so that the hole will be uppermost, so as to let off only gas. Should solid matter escape into the abdomen, it will prove fatal.

Portable Fence for a Sheepfold.—H. P. Thompson, Pendleton Co., Ky.—The coarse wicker-work hurdles used in Europe make a perfectly tight fence. A dog could jump over—but were the upright sticks left long and pointed, extending say two feet above the top of the wicker-work, we think dogs would be effectually excluded. These hurdles may be bound together with thongs of raw-hide, and supported besides by stakes set as braces, and the fence lashed to them. We may be able to describe and illustrate them soon.

To Relieve Choking Cattle.—Chas. W. Haight, Westchester Co., N. Y., writes to the *Agriculturist*: "I lately witnessed a very practical and easy method of removing the obstruction. It consists simply of a stiffly-twisted inch rope, long enough to push the obstruction from the gullet quite into the stomach. The end should be wound with strong cord, far enough from the end to form a fibrous knob. Two men hold the cow, another with this clears the gullet, and saves the animal."

A Cow With No Appetite.—Chas. R. Smith, Barnstable Co., Mass. From your statement you appear to think your pet heifer needs a purgative as well as a tonic. The following treatment will be safe at any rate, unless some decided symptoms of disease are apparent, in which case we of course would not advise. Give ½ lb. epsom salts, and 4 oz. sulphur, in ginger tea, letting it flow slowly down the throat. Repeat the dose if it does not operate. Follow this treatment with powdered Ginger 2 drachms, Gentian 1 drachm, and Caraway seed 1 ounce, given daily in cut feed, or sprinkled upon finely sliced roots (carrots if possible,) for ten days.

Books on Stock.—In answer to several inquiries, we recommend *Flint's Milch Cows and Dairy Farming*. *Youatt and Martin on Cattle* is an old, but excellent work. The most practical work on the treatment of disease in cattle is *Dadd's American Cattle Doctor*. For the horse breeder and owner, there is no book so good as *Herbert's Hints to Horse Keepers*. It is plain direct and reliable in its teachings, and written in a very agreeable style. *Dadd's Horse Doctor* is good, and *Mayhew's Illustrated Horse Doctor* most excellent. For Hog literature, Youatt's work is best, though Richardson's contains much valuable information. *Randall's Practical Shepherd* is, as we have said before, the best hand-book of sheep husbandry. *Bement's Poulterer's Companion* is a good and reliable work. All these books, with the prices, are in our book list, page 29, except the Practical Shepherd; we have however the Fine-wool Sheep Husbandry, by the same author, and also his Sheep Husbandry at the South, the latter also bound with Youatt on the Sheep, and called the *Shepherd's Own Book*,—all of which are very good.

Pumpkins for Cows.—(R. T.) It is a mistake of your neighbor, that pumpkins increase the quantity but injure the quality of milk. Experience is largely against him. Pastures are apt to fail in the Fall, and the milk fails too. Every farmer should provide green corn fodder and pumpkins enough to keep up the flesh and milk of his dairy to their average standard. On commencing to feed pumpkins, it is well to begin moderately, and then feed regularly. Take out the seeds.

Cribbing Horses.—G. W. Dewey. This disease arises from sour stomach, (dyspepsia,) in all probability. The Horse cannot vomit or easily belch wind, and so, to relieve the stomach of gas, takes this method of placing his throat in a position which will let the gas out. Try the effect of keeping salt constantly before the horse. Dampen his food and sprinkle prepared chalk or magnesia in small quantities upon it. Besides this, Mayhew recommends a handful of powdered oak bark fed with his grain daily.

Smith's "Cantering Horses."—We have had one of these several weeks, and can speak of it in the highest terms. It is an unfailing source of pleasure to the little folks, who "take turns" in riding whenever the weather admits of their being out of doors. A boy of seven drives it at a rapid pace, and guides it very readily. Its strong construction, and consequent durability, are decided recommendations for anything to be used by bouncing boys and girls.

Bones for Hens.—"B. W. O.," South Reading, Mass., asks, "Is bone-dust good for hens to make them lay?" Hens will pick over and eat common bone-dust; but one of the best things we ever fed to hens in Winter or Summer is finely pounded fresh bones from the table. There are solid flat rocks enough in old Middlesex that will make good pounding beds, and for a pounder use a 6-pound sledge.

"Will Tobacco Growing Pay Now?" asks a Kentucky reader of the *Agriculturist*. "Will not the greatly increased tax upon it, recommended by the Secretary of the Treasury, and likely to be imposed by Congress, tend so far to lessen the use, as to lessen the demand?"—We might well hope so, for the sake of the health of the people; but with this as with other narcotics and stimulants, cost is seldom reckoned. The more difficult the acquisition, the more earnest is the devotee to secure the object of his desire. Further, a large amount is exported, and the foreign demand will not be likely to decline; while the war has diminished the production in the prominent tobacco growing regions; and the old stock has been decreasing for two years. So we suppose tobacco culture will go on as prosperously as hitherto. We shall not publish much on the subject this year. Those intending to grow tobacco in large or small quantities, will find full and complete information from 14 practical growers, in the book of prize essays published last year. See book list on page 29.

Lists of Fruit.—John Fisk, Middlesex Co. Mass., asks why we do not recommend a single variety of apple or other fruit instead of a list of several. It would be impossible in the first place to suit all tastes; secondly, one variety will not give a succession of early and late fruit; and thirdly, it is never safe to depend on any one sort, as diseases frequently attack a particular kind and destroy it throughout a large section of country.

Crab Apples.—P. Mulford, Camden Co., Pa., Jr., is troubled by the falling of the fruit before maturity, and wishes to know the cause and the remedy. We should look first for an insect in the fruit, and if the cause could not be found, then would try severe pruning. We do not recollect having heard a similar complaint, and should be glad of any information in the matter.

Seedling Apples.—E. D. Blakeman, Columbia Co., N. Y. The fruit seems to be a very fine crab apple, of large size and good color. The bottle of sauce sent was very good, by some relished like cranberry sauce, and by others not liked so well. We can not decide from our slight knowledge of it, whether it is superior to other crab apples now in cultivation; it evidently promises well. We should prefer a name consisting of a single word, to the one you propose. The name of either your county or town would be appropriate.

Fruits for Central Illinois.—L. Marston, Vermillion Co., wishes a selection of five each of apples and pears. Bartlett, Belle Lucrative, White Doyenne, Seckel and Duchesse among pears; and Early Harvest, Maiden's Blush, Snow, Yellow Bellflower and Roman Stem Apples, will do well in his section, though there may be local peculiarities which will render it injudicious to plant some of them.

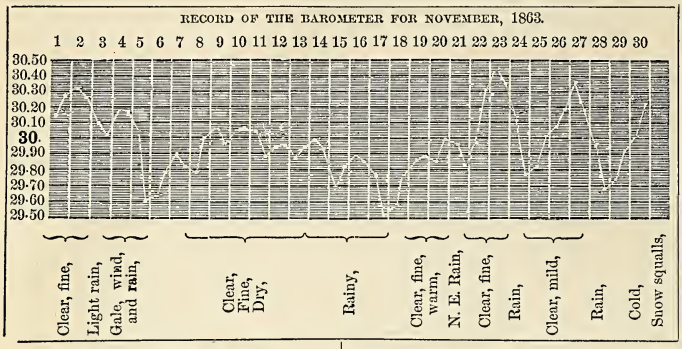
Watson's American Home Garden.—This book of about 530 pages, by Alex. Watson, is recommended to the many inquirers for a book on gardening. It treats of vegetable gardening, fruit growing, and as much of flower gardening as most people will be able to practise. The various implements in use are described and figured, as are the fruits and many of the vegetables. The different modes of propagating and training are clearly explained and illustrated. All the subjects are treated in a plain and practical way, and we know of no better work for the purpose for which it is intended. Price $1.50, by mail, or otherwise.

"The Fruit Garden" is a very complete treatise by P. Barry, of the well known Mount Hope Nurseries. It is not, as one would suppose from the title, confined to the fruit garden, but includes instructions for starting a nursery, planting orchards, budding, grafting, pruning, training, laying out plantations, etc. It is valuable to any one engaged in raising fruit, and especially so to beginners in the business. It contains 398 pages, well illustrated. Price, by mail, $1,50.

More Grape Queries.—Geo. W. Aldred, Hamilton Co., Ind., asks what kind of grapes we would recommend a farmer to plant. If confined to one kind we would say the Concord. We doubt if there are 20 varieties worth cultivating by any but amateurs. See grape notes in November and December *Agriculturist*.—W. R. Chapman, Burlington Co., N. J. We have already given all the information we have upon this new grape. The Yeddo Grape has not fruited in this country.

The Creveling Grape.—Mr. Massey, Editor of the Sunbury American, Northumberland Co., Pa., informs us that he has fruited this variety for four years. He says that with him it is not as early as the Hartford Prolific, but he prefers it to that variety, and its keeping qualities are remarkable for an early grape.

The Haw or White Thorn.—Jno. Fitzgerald, St. Joseph Co., Ind. Both the plants and the seeds can be obtained in this country. The objection to it as a hedge plant is its tendency to drop its leaves during our hot Summer, which weakens its growth



Barometrical Records.

In the *Agriculturist* for July, 1863, (page 205,) two diagrams were published showing the variations made by the barometer during two months, accompanied with notes on the use of the barometer, which need not be repeated. Quite a number of our subscribers suggest that it would be interesting to many who keep similar records in different locations, to compare them with one kept in this city. To gratify such, and also to show how regularly changes of the weather are marked by the instrument, we purpose presenting the record from month to month. As we go to press before the beginning of the month, this report will necessarily be a month behind the date of each issue. In the diagram, the perpendicular lines mark the days of the month, as noted in the figures at the top; the horizontal ones at the side, indicate the hight of the mercury in inches. Each horizontal line represents ten hundredths of an inch. The *irregular white* line shows the course of the mercurial column from day to day. Two observations are made each 24 hours; at 7 A. M. and 9 P. M. The dots in the irregular line show the position of the mercury at those times.

Price of Corn—The Markets.

"Mixed Corn" has been sold in our markets to-day (Dec. 18), at $1.33 per bushel!—a price not before reached within our recollection. When on the farm at the west, we used to think our corn well sold if we obtained 25 to 30 cents per bushel. Less than two years ago corn was burned as fuel in some parts of Illinois, because there was no market for it even at 12 cents a bushel. It is now quoted as high as $1.00 per bushel in Chicago. These prices are in part due to an unprecedented speculation, promoted by the abundance of money, and the premium on gold; but after allowing for this, the value set upon corn is the result of an extensive failure of the crop in Indiana, Illinois, and elsewhere. In the States named, there was little corn ripened sufficiently for seed, north of latitude 40°. This state of things brings much perplexity and real want to many farmers—all feel it. Cattle and swine are pushed forward to market half fed. The soft corn which was saved will not fatten them, and it brings a good price; so the animals are sent to market, and the corn is sold to the eastern dealers; and the packing houses of the west are glutted with poor beef and pork. The New York markets have also been largely supplied with beef cattle and hogs, so that meats have not kept pace with other products, though at the last general market, Dec. 16th, good beef cattle sold at prices equivalent to 10½ to 11½ cents per pound for the dressed carcasses, and very extra animals at 12 to 12½ cents. Good corn-fed hogs at 6 to 6½ cents per pound live weight. Sheep are also sent to market quite freely, owing to the scarcity of winter feed in some sections. They sell now at prices equal to 6 and 6½ cents per pound, live weight. The carefully-prepared, condensed Market Tables on page 27, will afford much information upon the transaction during the past month and year. It will be seen that almost all farm products have advanced during a month.

The Wool Market.

The steady advance of domestic fleece since shearing time, and during the most active season known to the trade for many years, has awakened an unusual interest in this article, affecting as it does, so large a number of farmers. All are desirous of being able to judge of future prospects. At the Colonial wool sales, in London, in November, previous high prices were not only maintained, but an advance was established on most grades. There will, therefore, be no unusual tendency to this market of foreign wools, unless exchange is much more in favor of importers than at present. This may happen through great Union successes in the field, or Federal legislation that will hinder speculation in the precious metals. The stock of wool now in store is small, and there is very little business doing, nor will there be before the middle or last of the month. Manufacturers and buyers are generally, busy, as usual, in closing up the business of the old year. Holders are generally very strong, and able to carry their stocks, in view of the great ease in the money market. There is, therefore, no prospect of a fall in prices before business is again active, unless there be a fall in gold and exchange, in which case even the relative price of wool and gold will doubtless be maintained.

Water in the Stock Yard and Barn.

Perhaps no improvement can be suggested which, if carried out, will give more satisfaction to the majority of farmers, than that of the introduction of flowing water into the barn and cattle yards. The advantages of having water ready at hand are apparent to all, but the methods of accomplishing it are so various, that it is well to consider several of them.

Direct flow with slight fall.—Where water can be obtained by conducting a stream from a brook or pond so as to distribute it in the tanks and troughs set in convenient places, it is only necessary to protect it from an over supply in time of freshets, and from freezing in winter. The former may be done by providing a box—which, in case of any excess of water, will overflow and not surcharge the conduit; the latter by laying selected drain-tile, dipped in thin hydraulic cement, using cement so as to close the joints, and covering this pipe two feet under ground. Wooden pipe (bored) will also answer an excellent purpose. If pitched within, and painted on the outside and in the joints with coal tar, this is very durable.

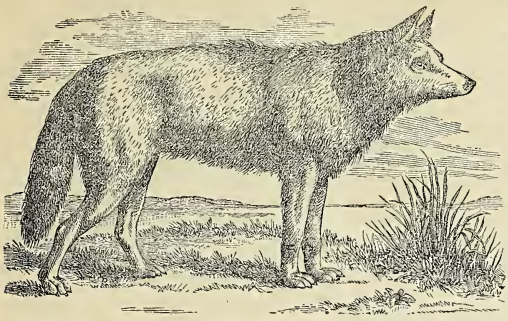
Direct flow with great fall.—When springs upon the hills are brought down to the farm buildings, and the difference of level is great, stronger pipes are ordinarily required. Lead pipe is now very expensive, and besides, it poisons some waters. Iron pipe is cheaper and very durable, but fills with a rusty concretion under some circumstances; most waters however rust it but little, and it is on the whole to be highly recommended, and easily obtainable.

Cisterns and Reservoirs.—With sufficient reservoir or cistern room we may maintain a constant and abundant supply of water for the season that cattle are generally kept up. The cheapest cisterns are made by excavating a hole of proper diameter, making the bottom and wall as smooth as possible, and laying a flat centre stone to stand upon at last. Then lay on a surface of cement mortar 1½ to 2 inches thick, made with mixed gravel and sand, from quite fine to the size of a large pea; follow this with a coat of the same, in which, however, no stones are larger than wheat grains, to leave a smooth surface—to be finished by "floating" it over with a thin coat of cement in which there is only a little fine sand. Thus used, a barrel of cement will cover 170 square feet of surface. The top of the cistern will be a foot below the top of the ground, and may be covered with plank painted with coal tar and covered with earth. A pipe running directly from near the bottom of the cistern, or a siphon, the short leg of which shall dip nearly to the bottom, will supply water at any lower level.

Wells on higher ground.—It not unfrequently happens that a well (15 to 30 feet deep) dug on a hill side, will deliver a constant supply of water. A siphon may be used in this case, and the water delivered in a constant stream, at a penstock down the hill. Water rams, windmills, and Artesian wells, may form a subject for future consideration.

Filling Ice-Houses.

An ice-house should always stand above the reach of floods; if near a stream or pond, as where ice-houses are built for supplying villages or for storing large quantities of ice, it is always best to place them near as possible to the water, so that a "way" may be constructed, upon which the cakes may be slid up to the requisite level. When the ice must be moved a distance to the ice-house, provide two joists upon which to slide it up into the sled or cart. The cakes should be cut as large as they can be conveniently handled, and so as to fit the house. The ice ought to form nearly a solid block, when the house is filled. Each course should break joints with the one below, and the spaces between the cakes should be filled with pounded ice, and six inches between the ice and the walls of the building with sawdust, or chips from the planing machine. It is more agreeable and better to handle ice, and to fill an ice-house, when the weather is very cold, than when it is thawing



The Prairie Wolf.—(*Canis latrans.*)

Those of our readers who live in the far West, or those who have travelled over the great prairies which lie between the Mississippi and the Pacific, will recognize in the above engraving a very familiar animal. At the East, this wolf is only known in confinement, it being occasionally seen in collections of wild animals, and during the past Summer, one has been added to the curiosities of the Central Park, where he has attracted a great deal of attention from the thousands who visit that popular resort. To introduce him to many other thousands, our artist has induced him to stand for his portrait, and succeeded in getting a most striking likeness. The prairie wolf is found from the Missouri river to the Pacific Ocean, and from Northern Mexico to Canada. Its size is about that of a common pointer dog; its color is a yellowish gray, mixed with a little black, especially on the tail. The face of this wolf is so much like that of a fox that one might at first sight readily mistake it for a gray fox. The voice of the animal is several sharp barks followed by a prolonged howl of the most dismal description. It is sometimes called the Barking Wolf, and in Texas it bears the Mexican name of Coyote.

These wolves are sometimes seen singly, but they more generally travel in packs of 6 or 8. In the matter of food, nothing in the way of birds or quadrupeds comes amiss to them, and when hard pushed by hunger, they will even feed on carrion. They are very troublesome to settlers in the countries where they are numerous, from their partiality to chickens and mutton. In travelling over the western plains we have more than once been obliged to make our breakfast without meat, the wolves having crept into camp and stolen that which was provided for our morning meal. Like the fox in the fable, they are very fond of grapes, and they descend upon the vineyards at El Paso in such numbers that when the fruit is ripening it is necessary to keep an armed guard to drive them off. These animals are remarkably swift of foot, and in packs of half a dozen or more they will chase and run down deer. It is said that the prairie wolf is easily tamed if taken when young, and that in their domesticated state they make themselves useful as rat catchers. They burrow in the ground, and produce five to seven young ones at a litter in the months of March and April.

Leghorn Fowls.

J. C. Thompson, of Staten Island, who has imported stock of this breed of fowls, gives us an account of his experience with them. He says: "I know of no better layers, and they are not disposed to sit. The chicks are very hardy, well fledged, and very precocious; the male birds crow when 6 weeks old, and the pullets lay at 3½ to 4 months old. The weight of the full-grown fowls is 5 lbs.; they are of all colors, and are often pure white. Their combs and wattles are very large; the face or ears are from a pinkish white to a pure white. The size of the combs and wattles is an objection in cold climates; in the latitude of New-York City it is necessary to protect them against extreme cold weather, but they lay well in Winter when so protected. The Brahma Pootras are considered best for cold climates, and are said to be excellent winter layers. They are very large and remarkably quiet birds."

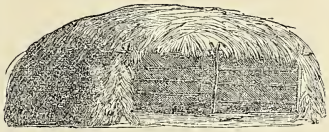


Fig. 1.

Straw Shelters, Stables, Ropes, etc.

The only abundant building material of the open prairie appears to be straw or hay. Shelters for all domestic animals are constructed of it. A few poles form a roof-support, and the straw is piled about and upon them. On the sides of the shed the straw is either simply a trodden down heap, trimmed with a hay-knife on the inside, or it is piled against rails. These are very warm sheds, (see fig. 1)—but they wet through, leak, and the straw rots and must be removed after a short time. Accumulation of straw on the prairies is now prevented so far as the heading harvesters are used. These it is well known cut simply the heads of the wheat, leaving the straw as tall stubble. Still there are comparatively few headers in use, and straw heaps, new and old, dot the prairies far and near, or their burning illuminates the country by night.

Fig. 2.—STRAW-THATCHED SHED.

Instead of the shelter now in vogue, better sheds might be built, using the same materials. Much of the tall stubble cut close to the ground is long enough to make most excellent and durable thatch, if well put on. A few bundles of wheat might be threshed out by hand, and the straw saved, or even the machine threshed straw might be used and answer tolerably well, if a sharp pitch be given to the roof. Thatching is understood by many immigrants and the principles upon which good work depends are so simple, that where beauty is not demanded, any handy man will make a tight roof after a little experience. There are several methods of using straw to form the sides or walls of these stables. A convenient way is to set upright poles about 8 inches apart, and draw wisps of straw round each, so that both ends of each wisp shall be outside. It is best to lay these in horizontal courses and beat down each course as it is laid, keeping it uniform and tight. As the filling is with straw progresses, there may be a split pole woven in once in three feet or so, to hold the

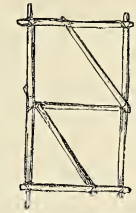


Fig. 3.—DOOR FRAME.

Fig. 4.—STRAW DOOR.

uprights in place. The straw is finally to be raked down on the outside so as to shed rain well. This makes a tight, warm, and lasting wall. The inner side is quite even, and it may be sprinkled with mud if there is danger of the animals pulling out the straw to eat. (See fig. 2.)

STRAW DOORS AND SHUTTERS.—It is a great convenience, where lumber is scarce, to be able to make expeditiously a good door or shutter of any kind. Constructed of straw a door may be strong, light and tight. Tie, or wire together, a frame of round sticks—braced or stayed by cross-pieces to give requisite strength. (Fig. 3.) This frame should fit loosely in the window or door-place, and one of the upright pieces should be strong enough to hang the door by. Then wind a straw-rope of 1½ to 2 inches in diameter around the longest way so as to cover the frame. Next, weave a tighter wound straw-rope, back and forth plaiting the whole in a single mat. (Fig. 4.) The strands on each side of the frame

Fig. 5.—IMPLEMENT FOR TWISTING STRAW ROPE.

may be plaited separately, forming thus a double thickness of the straw mat. We have seen mats made in this way by the soldiers, and stuffed with straw as the weaving progressed, and when done they made very good beds.

STRAW ROPE is made by twisting damp straw. Sprinkle a heap of straw the night before. All farmers should possess a set of centre-bits and stock. Take a large centre-bit and attach a stout wire hook to it and place it in the bit stock. Where the bit-stock is wanting, contrive some substitute. Two persons are required—one twists a loop of straw into the hook, (fig. 5,) and walks backward turning from left to right; the other remains at the straw heap and feeds fresh straw to the lengthening rope. A sufficient length being attained, the rope is fastened upon a fence or between poles or trees until dry, when it will not untwist.

IN order to reach perfection it is necessary to have either very faithful friends or implacable enemies; since we must be made sensible of our failings, either by the admonitions of the former, or the invectives of the latter.

About Muck and Leaf Mould.

"L.," of Chicago, and several others, propose to the *Agriculturist* various questions concerning muck and leaf mould, which may be most readily answered by a brief sketch of the nature and uses of these substances. To give this, it will be necessary to state some general facts concerning vegetable life. The principal part of all plants, or rather of all plants when dry, is *carbon;* this element we are most familiar with in the form of charcoal, and it will be seen from the amount left after a piece of wood is charred, how large a proportion this makes up. Water is also an important and abundant constituent, even in the driest wood, and it may be stated in general terms, that all plants consist mainly of charcoal and water. We can readily understand that the plant obtains its water from the moisture in the soil, but the source of the carbon is not so evident. The carbon comes from carbonic acid, which is a compound of carbon and oxygen, and is an invisible gas. The plant has the wonderful power of decomposing carbonic acid within its tissues—appropriating the carbon to build up its growth, and setting the oxygen free. Carbonic acid is always present in a small proportion in the atmosphere, and a plant in pure sand will grow, from carbon yielded by the carbonic acid of the air, or that dissolved in the water with which it is supplied. A plant in this condition can not flourish vigorously, as it needs (among other things,) more carbon than can be obtained from these sources. When placed in good soil, it not only receives carbonic acid from the air, but from another important source, viz., the decomposition of vegetable substances in the soil. When a plant is burned, a small amount of ashes is left and the rest of the bulk passes off, mainly as carbonic acid and water. The carbon, or charcoal, unites with the oxygen of the air, and forms carbonic acid, which diffuses itself in the atmosphere, where it is ready to contribute to the growth of other plants. If instead of burning the plant, it is allowed to decay, the process, though much slower, produces precisely the same results—the carbon finally disappears as carbonic acid. When vegetables decay, they do not, as in burning, pass directly into carbonic acid and water, but there is an intermediate state between their perfect condition and their complete decomposition. The structure is broken up and a powdery mass is left, to which the general name of *mould* or *humus* is given. According to the circumstances under which the decomposition has taken place, mould has different properties, and distinct names have been applied by chemists to its various conditions; but by whatever name it may be called, it is vegetable matter in some stage of its progress toward a final resolution into carbonic acid and water. Peat, swamp muck, leaf-mould, or the mould from the decay of various plants in the compost heap, are much alike. Peat and muck differ from the others because the decomposition goes on in the presence of much water, and this does not allow the change to extend beyond a certain point, as air is in a great measure excluded. Hence, deposits of muck will remain for ages, the vegetable matter of which they consist being in a partly decomposed state; but when it is dug out and exposed to the air, the decomposition sets in again, and goes on until it is completed. All good soils contain an appreciable amount of vegetable matter undergoing decomposition, and this, by its complete decay, furnishes a supply of carbonic acid which is taken up by the roots of plants. Where soils are deficient in this vegetable constituent, then muck, leaf-mould, and composted plants, are just in a condition to supply it, and are added with benefit. For the same reason, green crops are plowed under, as these, by their decay, supply the needed vegetable matter.

The question has been asked: "Will plants flourish in a soil composed entirely of mould?" There are some plants which will grow, and even prefer such a soil, but there are none of these which we cultivate for food.—As before stated, when a plant is thoroughly burned, there is an incombustible portion (ashes) left behind; this shows the amount of mineral matter taken up by the roots. Without being able to show of what use these are in the life of the plant, experience teaches that they are essential to its perfect development, and that most plants will not make a healthy growth if placed in a soil of pure vegetable mould. While this brief account does not give all the conditions of plant growth, the statement with regard to the uses of vegetable matter in the soil will enable those who ask why we so constantly recommend muck, etc., to see the reason for it. Soils already rich in vegetable mould, as is often the case at the West, will not be benefited by an addition, nor is the absence of this, necessarily, the sole cause of unproductiveness.

The Treatment of Night Soil.

Since the appearance in the June *Agriculturist* of an article describing the great poudrette manufactory, there have been several inquiries as to the manner of rendering the contents of privies available in the small way. Many persons who have gardens or small places would gladly make use of this source of manure, if it could be done in a manner not offensive to themselves or their neighbors. The great obstacle to the employment of this domestic fertilizer is its fluid condition, caused in part by the common practice of using the vault as the receptacle of the house slops of all kinds, and in part by the faulty construction of the vaults themselves, which admit water either from the ground or from rains. On the farm, these semi-fluid contents of the vault can be conveyed to a pit and covered with muck or loam, and after remaining until the liquid portions are absorbed, they may, after a long time, be brought to a condition in which they can be used. Where one has only a limited space, this manner of managing the night soil is not practicable, and it is often cheaper to have it carted away, than to attempt to use it. In order to save the manure in a manageable state, the vault should be provided with a tight box to receive the droppings, and should be so constructed as to allow of the removal of this without much trouble. If the privy is built upon the edge of a bank, this can be contrived all the more easily. The contents of the box should be kept as dry as possible, and the emptying of slops into it should be strictly prohibited. To prevent unpleasant odors, to absorb liquid portions, and to aid in the division of the manure, there should be a supply of absorbent material: this may be muck, peaty earth, deposits from ditches, fine refuse charcoal from coal pits, or even good loamy earth. Whatever material is used, it should be dry and kept near at hand in a covered box or barrel. A layer of the muck, or other absorbent, is to be placed on the bottom of the receiving box, and at intervals of a few days an additional supply should be liberally thrown over the accumulated deposit. If a few handfuls of plaster are thrown in occasionally, it will help to suppress odors, and increase the value of the manure. When the box is filled, it can be removed and its contents added to the compost heap, or it may be converted into poudrette. For this purpose it may be worked over with an additional portion of muck or other absorbent, using this in such quantity that it will, with what has been previously added, form about three quarters of the whole. The mass should be kept dry, and the working should be done under a shed or in a place where it can be covered with boards to exclude rain; and after the matcrial is prepared it should be kept perfectly dry.

The Action of Plaster as a Fertilizer.

Perhaps no subject connected with agriculture has given rise to more speculation than the action of plaster or gypsum on vegetation. Why it should produce such striking results at one time, why it is apparently useless at others, or why it should be beneficial at all, have been problems which the agricultural chemists have found difficult of solution. The columns of some of our cotemporaries have recently been occupied with communications upon this subject, which served to show a lack of chemical knowledge upon the part of the writers, without increasing that of the readers. In cases like this, one direct experiment is worth a host of speculations, and M. Dchérain, of France, has, by his labors in this direction, given us some light upon this much vexed subject. These experiments indicate that the use of plaster is mainly to liberate the potash contained in the mineral constituents of the soil. In the disintegrated rocks of which the soil is composed, potash exists in an insoluble combination The plaster is sulphate of lime, which is soluble, and when this, in the moist state, is in contact with minerals containing potash in an insoluble form, the lime and potash change places. The potash is liberated, while the lime of the plaster takes its place in the insoluble mineral. This change is effected very rapidly, as it was shown that soil which contained only a trace of potash, gave, 12 hours after the application of plaster, an appreciable amount of that substance. Another effect of plaster has been suggested by Prof. S. W. Johnson in his lectures at the Smithsonian Institution. It has been found by experiment that the presence of certain substances, plaster among the rest, in the juices of a plant, has a marked tendency to prevent evaporation by the leaves. It is of course necessary that a certain amount of the liquid contents of the plant should pass off in this way, but in a very dry time the evaporation may be more rapid than the processes of vegetation demand. The use of plaster upon the soil may enable a crop to withstand a drouth much better than upon unplastered land.

WHAT NEW-YORK IS WORTH.—The assessed valuation of the real and personal property in the State of New-York is officially stated at $1,454,454,817. Of this amount New-York City has more than one-third, or $547,416,030. Kings County in which is included the City of Brooklyn, ranks next in wealth, being valued at $98,147,604. The lowest estimate is for Hamilton Co., which stands at $605,000.—The assessed value is of course much below the real money value. If the war continue through this year on the same scale of expense as now, the

National debt will just about equal the assessed value of the property in New-York State.

Notes from Northern Iowa—Crops—Breaking Prairie, etc.

C. A. Marshall, Howard Co., Iowa, writes to the *American Agriculturist*: The past season may be considered an average one for the farmer. The wheat crop was decidedly above the average in quantity, and its quality extra; a great deal of our Spring wheat weighed 62 lbs. per bushel,—Oats, about an average.—The failures of the season were in hay and corn, owing to the severe drouth. The tame grasses on some prairies hardly paid the expenses of saving, while natural grasses were very light. The corn was a sad failure in most places, the successive frosts having totally ruined half the crop.

Your correspondent inquires about breaking prairie. The man who advises breaking clean prairie after July 1st, is either ignorant of his profession as a farmer, or if a "regular breaker," is guilty of improper motives. I know many "breakers" who, to spin out their breaking season, recommend late breaking, and alas! for the poor stranger who listens to their tale; he will find his sheaves at the next harvest "few and far between." Hazel brush is better broken later. Such is the experience of men who have bought their experience and paid dearly for it. I should recommend breaking any time between May 1st and June 20th, about 4 inches deep, plant no sod crop unless I was so hard up as to borrow a little the first year at a tremendous usury upon the crop of the next. Sow with wheat by all means, though corn does wonders on new ground cross-plowed. (I get my seed wheat free from all weed seeds, and follow with corn the second year.)—Beware of oats on too rich ground; if a moist season, they will lodge.—Keep young cattle enough to eat up all straw and corn stalks, and young colts to consume all the hay you can cut, and if on these rich prairies you do not get rich in a few years, be assured that the fault does not lie more than hundred miles from your own door.

Sowing Fife Wheat in Autumn.

In the last April number of the *American Agriculturist*, page 106, Mr. R. F. Roberts, Racine Co., Wis., communicated the fact that many cultivators in the eastern and southern counties of Wisconsin, and in Lake Co., Ill., were experimenting with Fall-sown Fife wheat, several successful trials having been made during a few years previous. We have now to thank him for a report on the results, derived from extensive observation and inquiry throughout that section. He writes: "Sowing Fife wheat in the Fall has proved an entire failure. In the Autumn of 1862 the experiment was tried extensively, and by many on a large scale. One farmer whose experiment had succeeded admirably the previous year, he having raised 200 bushels of the first quality, sowed 40 acres, and in the Spring, plowed it up and sowed with other grain. It was tried on all kinds of soils. Some sowed at the usual time of putting in winter grain, and it came up finely and promised a good crop. Others sowed late, that it might not sprout before freezing up; but in all except two cases which came under my observation, the results were failures, and the two excepted were not a satisfactory success. Some seeded with Spring-sowed Fife, and some used the product of that sowed the previous Fall, but there was the same failure. Its success depends entirely on the character of the seasons. Fife wheat is not as hardy as any variety of winter wheat. If the ground is covered early with snow which remains on all Winter, this variety will succeed well, producing a much finer quality of grain and a large yield. All with whom I have communicated on the subject, agree that it will not pay to run the risk of such a contingency, especially as when even Fife wheat sowed in the Fall will succeed well, winter wheat will do better."

Notes on Wheat.

Rev. B. S. Senenk, D. D., Editor of the Reformiste Kirchenzeitung, Chambersburg, Pa., in a letter, says. "....I read the *American Agriculturist* with much interest, and frequently practise with profit upon its teachings, both in my small fields, and in the garden ...In our fertile Cumberland Valley, wheat yields tolerably well—sometimes unusually so. A 3-acre field of my own sown with the new Red Mediterranean produced 90 bushels of clean wheat. Another plot of 1¾ acres sown with the white Boughton, yielded 50 bushels, exact measure, of clean wheat. The combined *rakings* from both pieces gave 9 bushels, and the offals (screenings?) about 5 bushels more, making the entire product of 4¾ acres, 154 bushels. The "Boughton" is a new wheat here—ripens 5 or 6 days earlier than even the Red Mediterranean, and hence is *the* white wheat for our climate. I had so often tried various white wheats without getting ahead either of the weevil or rust, that I gave up raising it, the last trial being that beautiful variety, the Blue Stem, which, 30 years ago, was the stand-by of the farmers in Centre County, in this State. But it ripens too late for us at present. The Boughton seems to answer very well, has a good, heavy straw, and the yield is very respectable....."

Measurement of Grain Bins.

Joseph W. Wood, Sauk Co., Wis., communicates to the *American Agriculturist* the following convenient method of measuring grain bins, etc. He says; A cubic foot is $\frac{1728}{2150.42}$ of a bushel = .803. Three thousandths of a bushel is less than one-fifth of a pint: therefore to estimate a cubic foot as eight-tenths of a bushel, gives an error of less than one-fifth of a pint, which, in measuring a bin of ordinary size, would be of small account. By this estimate the capacity of any cubical vessel can be readily ascertained, by simply multiplying the number of cubic feet it contains by the decimal .8: Thus, in a bin 8 ft. long, 3 ft. wide, and 6 ft. high, 8x3x6=144 cubic feet, which multiplied by .8 gives 115.2 bushels as the contents. The error in this example amounts to less than half a bushel.——By fixing upon two dimensions of a box or bin, the other can be calculated so that the receptacle shall hold any required amount. For example, a bin is wanted to hold 250 bushels of grain. Suppose it be 8 ft. long, and 6 ft. high: what must be the width? 8x6=48, this multiplied by .8=38.4—that is, one foot of the width of the bin will hold 38.4 bushels, and 250 bushels divided by 38.4 gives 6.5 or 6½ ft. as the required width. By carrying out the decimals, any required exactness can be attained.

It is better to make ourselves loved than feared.

A Plea for Boys.

H. A. Trench, Eaton Co., Mich., writes to the *American Agriculturist*: "Boys are usually eager to swing the axe, the scythe, etc., in imitation of their elders, but they are seldom furnished with tools made to correspond with their strength; consequently, after a few trials they are often discouraged and repelled from such labor. In some instances they are flattered or driven by their inconsiderate parents to labor with tools twice or thrice too heavy, and while thus being trained to industry, their weak bodies are permanently injured, if not dwarfed. Implements for boys are manufactured to a small extent, but few purchase them, and thus manufacturers have little inducement to make or advertise them. Something should be done to remedy this. Let Agricultural Societies offer premiums for the best set of farming tools for boys, and for crops raised by boys with implements adapted to their strength; and let the identical instruments which they used in cultivation, be exhibited with the samples of their produce. Let every Agricultural journal agitate the subject until it is fully before the public.

"In this connection may be mentioned a field of labor well adapted to the juveniles. They almost invariably like to use a team. A large dog or a goat, if properly trained, will furnish considerable draught power. The boys might commence instructing their animals this Winter, by breaking them to draw wood on a sled. The blacksmith can, at a little expense, make three to five steel teeth for a small garden cultivator. Next Spring plant the onions, beets, carrots, etc., in long rows instead of beds, and the boys will take pleasure in driving their teams back and forth, with the cultivator attached, and the weeds will suffer, to the great benefit of the vegetables. It will be no great hardship for them to pull out the few remaining weeds in the rows, while the teams are resting, especially if this be made a condition of their being permitted to do the cultivating. When this becomes an old story, as an additional inducement, allow them, when the garden is cleaned out, to hitch up to the wagon fitted for their use, and take a drive for pleasure.

"If no shrewd manufacturer will take the hint and bring out all necessary apparatus for such operations, it will pay one having a family of boys, to have it done to order. Any good blacksmith can forge out a hoe, shovel, spade, etc., of the right pattern for boys' use."

Experience in Artificial Swarming of Bees.

L. L. Fairchild, Dodge Co., Wis., writes to the *American Agriculturist*: "Just before swarming time last season, I purchased a large old fashioned box hive, well filled with bees and honey. As there was no disposition to swarm shown, (though a new stock could apparently be easily spared,) I exchanged the location with a weak stock that had cast two large swarms. By so doing, the weak stock was made strong in numbers, and was soon at work in the cap boxes. In some three weeks, the purchased stock had largely increased, and the outside of the hive was black with the outhanging bees. I then took two frames from each of three Langstroth hives containing early swarms, and placed the frames containing brood, eggs and stores in a new hive, and added four more frames partly filled with empty combs,

that I had saved the year before. This hive I placed on the stand occupied by the purchased stock, and transferred that to a new location. The bees that had left the old hive, and were out in the fields, having marked this location, returned to it and soon furnished the new hive with a goodly family. They immediately started nine queen cells. I had a young queen in a single-frame observing hive, not fertilized. Waiting a few days, I found her laying eggs, and concluded I would introduce her into the queenless hive, and thus save time. I put her in a wire cage and laid her over the hole in the honey board. Next day I took off the honey board, not doubting that all was right, cut out all the queen cells, and took up the cage containing the queen. Behold she was dead! Here was a dilemma. No queen, and all the means the bees had of raising one destroyed. What was to be done? After cogitating, I opened another hive and took out a frame containing eggs and brood in various stages, and introduced it into the queenless family. They commenced once more to supply their loss, by constructing queen cells. A day or two after, in examining a swarm that had been transferred from a box to a movable frame hive, and that contained a fertile queen, I found a card with two sealed queen cells, nearly mature. This, I also introduced into the motherless stock. Shortly after, I had the satisfaction of seeing the bees of this hive working with increased vigor. On opening the hive, I found they had matured a queen, and she had already deposited several thousand eggs. This happened late in the season, and having had an unfavorable spell of weather, part of my stocks having destroyed their drones, I feared the queen would not be able to meet the drones. My fears were not realized. Soon after, we had a few days of good weather, and the bees rapidly accumulated stores, and I see no reason now why it is not one of my best hives. It is not so heavy as some, but still, I think it has honey enough to carry it safely through the Winter.

Improvement of Highway Borders.

S. Edwards Todd says in the Country Gentleman, that in many portions of Onondaga Co., N. Y., the soil on each side of the beaten track has been neatly graded, seeded with grass, and all the stones and rubbish removed, and a good crop of hay is annually cut. In some localities visited by him, which had just been mowed, he judged there would be not less than two or three tons of good hay per acre. This of course necessitates the mutual agreement of all the residents of a neighborhood, to keep their stock out of the highway. It is true that by a law of this State, no one has a right to pasture cattle along the road adjoining the field of another owner, yet few would care to improve their own highway borders, if compelled to go to law to protect their rights. There must therefore be a general, voluntary observance of the regulation, to have the plan succeed. Where a farmer has a long line of highway running through his lands, it will pay well to bring it into meadow. Leisure time during the present Winter may be well employed in grading this ground and removing obstructions, preparatory to seeding in Spring with timothy and clover, or other grass suitable to the locality. Such an improvement would add greatly to the attractiveness, and it would thus increase the value and salableness of a farm.

More Notes on the White Willow.

Unless considerable care be taken, there is danger of confounding this with some of the inferior or worthless varieties. The smooth, light greyish bark, only slightly scarred where the leaves grew, serves tolerably to distinguish the cuttings of the white from those of the yellow variety which are of a bright yellow color; also from those of the Ozier which are of a reddish grey, and from the black and swamp willows which are more deeply scarred, and of a darker hue. The *habit* of the tree, however, is the marked feature: the stems are more erect, the branches starting from the main stems at a less angle, and the tree throughout, presents a trimmer and more regular look. In the December *Agriculturist* we referred to the use of this willow at the West as a live fence, and for timber. The engraving herewith presented, represents some trees well grown in a fence, (a little too stiff, bare-stemmed, and poplar-like,) and some which have been topped. Had but 3 or 4 shoots been allowed to grow after topping, they would have made a much larger growth. How many shoots are to be left, and how long they are to be allowed to grow, depend upon the purposes for which the wood is desired. An enumeration of some of the uses of this tree may be profitable to many of our readers.

For Powder.—So extensively is the white willow used for making charcoal for the manufacture of gunpowder, and so much is this species (*Salix alba*, which includes the yellow willow,) preferred, that throughout the districts where it is raised, particularly on the Connecticut and Delaware rivers, it is known as "Powder willow." The wood is cut 8 feet long and sold to the manufacturers, or it is bought standing and cut by them. The yellow willow is equally good, but it does not make so rapid growth.

For Basket, or other wicker work, this willow is used in both Europe and this country. It is especially valuable where stout coarse wicker-work is made, and for the coarse parts of very fine work. For this purpose, the shoots are cut in Spring when the bark peels easily. The many applications of wicker-work are not understood in this country, but we think when once the willow becomes common, where timber for boards is scarce, it will be valued as it is in many parts of Europe. Movable hurdles for fencing yards, sheep-folds, grain-stacks, etc., may be constructed of it, and they possess great strength and durability. They are made in lengths of about 8 feet, with a width of 4 feet, and are woven so closely that even a rabbit can not go through. Similar wicker-work makes very good wagon bodies, which may be constructed like a huge basket, or be made in separate pieces to be put together and held in place by stakes and withes. Other uses of a similar character will occur to our readers.

Farm Roads.—Where the ground is not plowed every year or two close to a live willow fence, the ground within 12 to 16 feet becomes filled with roots; then the lower branches being lopped off, this space forms, wherever we have observed it, an excellent cart path, good at all seasons. No heavily loaded cart will cut through the surface. Where farm roads cross wet swales or soft ground, this will afford a great convenience.

Corduroy roads and Causeways.—Roads must often be made across sinking ground, where stones and earth are swallowed up, and even where common corduroy will not stand long. The willow is well adapted for this. If the shoots of two years growth be taken, and laid thickly in the road-bed, and then covered with sufficient earth to make a smooth road, not only will the willow answer as well as any other wood, but the sticks will sprout and grow from each end, and the road-way will be filled with a mass of living roots, binding the whole together. We saw causeways made in this way of the white willow on Duck Island, in the Delaware, on the farm of Mr. Joseph Reader, who strongly advocates the use of this kind of road through the sloughs, which are such impediments to travel on prairies. After our well-remembered experience during "a wet spell" on the prairie, both by day and night, we may be excused for pressing this matter earnestly upon the consideration of western men. In our view the Counties ought at once to lay out roads and provide at least for causeways crossing the sloughs, which shall be good and firm at all seasons. The bark of the willow is used for *tanning* in Europe, where also woolen fabrics or yarn are sometimes dyed of a sort of butternut color, (not a favorite one in these times for

men's garments, this side of Dixie.) Another use to which the leaves are put in Northern Europe,—namely, as winter fodder for sheep and goats,—will be no recommendation of the plant.

Necessity of Developing Agriculture.

The following truthful and eloquent extract from the address of Alexander H. Bullock, before the Bristol County Fair, (Mass.,) deserves to be generally considered. It is of wider application than the State to which it refers:

"We have in Massachusetts about the same proportion of persons engaged in the cultivation of the earth, as is returned by the English abstracts, and the smallest extent of the products of the land which would be proportionate to the magnitude of other departments, should be, not forty millions, but a hundred millions. The agriculture of the State has every inducement for a larger development, which can be derived from the most minute organization of its industry, and from the most complete expansion of its powers of consumption. And the time has now come when manufactures and trade will require but little further encouragement,—they will take care of themselves,—but it is agriculture which must achieve higher advances, or degeneracy will begin its work. If we expect to maintain the position we have acquired in the community of States, or to hold unimpaired the adjustment and symmetry of our social character, we must preserve in its full vigor the element of an agricultural population,—responsive to the growth of other departments, and irradiating the future, as it has irradiated the past, with the lustre of its patriotism and integrity, its sobriety and frugality, its virtue and religion. And especially in the present epoch of uncertainty and change, when the gilded prizes of trade so frequently crumble to ashes, and the riches of skill and art so easily take to themselves wings, let us hope that the fifty thousand farmers of the State will hold fast to their profession—that they will remain themselves, and that others will join them in the safe and serene paths that were marked out by the Divine hand in the beginning of all things. With a commonwealth thus organized and classified—the masterly energies and comprehensive grasp of its manufactures, and arts, and commerce, resting on the pure and solid base of an unfailing and increasing agriculture—and all blending in the culture of those charities which impart even to present life a beneficence that is imperishable—we may fondly hope to repeat, in our experience from year to year, the happy and lofty climax of the poet:

"Man is the noblest plant this realm supplies,
And souls are ripened in these Northern skies."

Some More Cabbage Talk.

When the stump from which a head of early cabbage has been removed, is left in the ground, it will not unfrequently form several other and smaller heads. In this case the axillary buds mentioned in December *Agriculturist*, grow and form heads. For convenience of reference and comparison, we introduce the same figure again. Some of the uppermost buds (fig. 1, *b*), develop in this way, and make a second attempt to provide for an abundance of flowers the next Spring. When cabbage stumps are set out in Spring these buds develop and form branches which, when young and tender, are used as food. In a curious variety of the cabbage called

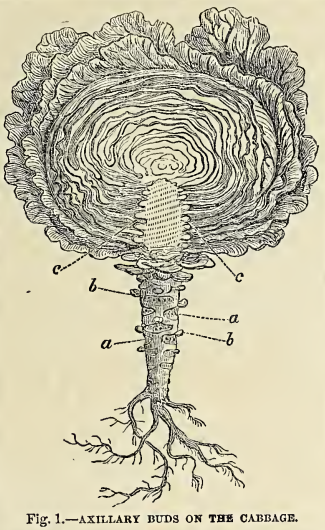


Fig. 1.—AXILLARY BUDS ON THE CABBAGE.

Brussels Sprouts, the stem grows much taller than in the ordinary cabbage, and the *buds*, which in cabbages are very small, are here as large as walnuts, and are like little cabbage heads distributed all along the stem, as is shown in fig. 2. No compact head is formed at the top of the stem, but it would seem that the material which in the cabbage goes to form one large head, is here distributed among a great number of small ones. Brussels Sprouts have long been cultivated at the place from which they are named, and are supposed to have originated there. They are but little grown in this country, but in Europe the little heads, or sprouts, are considered a great delicacy. The well-grown specimen from which the drawing is taken, was sent to us by Mr. William Erwood, of Long-Island.

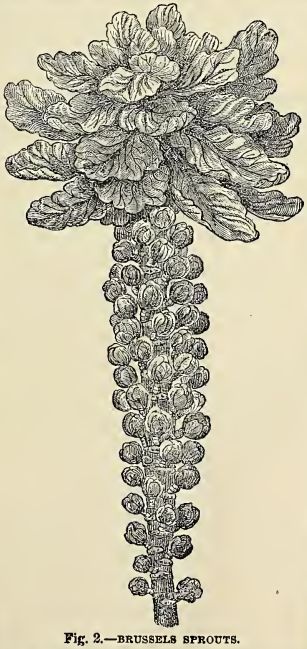


Fig. 2.—BRUSSELS SPROUTS.

The Kale, or Borecole which is so generally seen in our markets in Winter, is also a variety of cabbage. It, however, forms no head, but in its place has a cluster of loose leaves upon the top of the stem, which, after they have been frozen, form very good greens. This variety is nearly like the cabbage in its natural state.

Kohl-Rabi, or the Turnip-cabbage, as it is sometimes called, is a very curious variety of the cabbage. Like the Kale it does not make any head; and the stem, instead of elongating as in the other varieties, swells out just above the root into a flattened turnip shaped body, which is the eatable portion. Upon examination it will be found to be just like a depressed cabbage stalk, with broad scars marking the places of the leaves. Burr, in his work upon garden vegetables, singularly enough classes this with the esculent roots. A slight inspection will show that it is a stem and not a root. The statement which has been going the rounds of the papers that it is a cross between the turnip and cauliflower, is simply nonsense. It is only a variety of the cabbage with an unusual shaped stem. The plant should grow quickly and be used while young and tender, when it is a very acceptable vegetable. It hardens as it matures.

Fig. 3.—KOHL-RABI.

Air and Ocean—Interesting Items.

The air is made up of a mixture of two gases, oxygen and nitrogen, and it always contains considerably watery vapor and carbonic acid. In his new work on Chemistry, Prof. Youmans states, that if all the air were reduced to its average density at the earth's surface, it would extend about five miles high, and that if the above constituents were arranged in layers one over the other, we should have first, at the bottom, a bed of water all over the earth's surface 5 *inches* deep; next a layer of carbonic acid 13 *feet* deep; next above, a layer of oxygen gas about 1 *mile* deep; and above this a layer of nitrogen gas about 4 *miles* deep. This will help the memory.——SEA WATER contains about 4 *ounces* of salt in every gallon. Estimating the ocean to average 2 miles in depth, the salt if separated in a solid bed would line the bottom of the entire ocean to a depth of 140 feet.

NEW-JERSEY TEA.—The leaves of this plant have recently been analyzed by Prof. Gibbs, of the Lawrence Scientific School at Cambridge, and no *Thein* or other analogous substance was found. As it is to Thein that tea owes its peculiar value, it will be seen that the New-Jersey article is no nearer being a substitute for it than many other plants from which "herb drink" is made. To those who take tea, as many people

do, only as a warm and sweet beverage, Jersey tea, sage, blackberry leaves, and many other cheap substitutes, are acceptable.—A plain and an easy method of distinguishing the "New-Jersey" from the genuine tea, even when mixed with it, was given in the December *Agriculturist*.

Curious and Useful Notes on Lime.

The lime we use to fertilize our fields, and to plaster our dwellings, is an interesting as well as a useful substance. Perhaps a little knowledge of what it is, and how it behaves, will invest the walls with other attractions than mere whiteness, and divert the attention while engaged in the disagreeable work of sowing lime broadcast on a windy day.——If we take in our hand a lump of caustic or fresh burned lime weighing 28 ounces, we are really holding 20 ounces of metal, which is much lighter than lead, and a little harder. The chemist calls this metal *calcium*. The other 8 ounces is a substance named *oxygen*, (which makes up 8 ounces in every 9 ounces of pure water, and about 8 ounces in every 64 ounces of air.) One atom of the oxygen joins one atom of the calcium, forming what the chemist calls *oxide of calcium*, which is lime. To abbreviate it, we write CaO., the Ca standing for the calcium metal, and the O for the oxygen. The calcium atom is 2½ times heavier than the oxygen atom. The mass of lime we hold, is made up of innumerable pairs of these atoms. When a piece of wood is burned or rots in the air, each minute atom of carbon (coal) in the wood unites with two atoms of oxygen in the air, and floats away unseen. This gas, called *carbonic acid*, is written CO_2, the C standing for *one* atom of carbon or coal, and the O_2 for *two* atoms of oxygen. (It is the same gas that bubbles up in soda water, and the same that expands the holes in a loaf of bread or cake, or in griddle cakes, to make them light.)

Now hold some fresh lime over the burning wood, and an atom of lime (CaO) will catch and hold an atom of the escaping carbonic acid (CO_2), and we then get a new compound (CaO,CO_2) which is called *carbonate of lime*, made up, as you see, of calcium metal and oxygen, with carbon and 2 more atoms of oxygen, —all united closely. This compound is the same as white chalk. A number of these atoms compacted into a solid mass, would make white marble. Color it in streaks or veins with a little metallic oxide, and it is the variegated Italian marble. Color it uniformly of a dark or brownish hue, and it is our common limestone. Remember, then, that *chalk*, *marble*, and *limestone*, are composed of *the same elements*, differing mainly in their compactness, and in having a little coloring matter in the last two.

If we strongly heat limestone, marble, or chalk, in a kiln, or fire, the carbonic acid (CO_2) is driven off as an invisible gas, and only lime (CaO) remains. This is the strong, caustic or quick lime. If long exposed to the air, it extracts from it the floating carbonic acid, and forms fine grains of carbonate of lime again; new heating makes it strong or caustic again.

This caustic or fresh lime has strong alkaline qualities, like those of potash. In its effort to get carbonic acid for which it has a great liking or affinity, it destroys the flesh; it separates the elements of all vegetable substances, such as plants, roots, muck, manures, etc., setting free the atoms of the old plants to enter into, nourish and build up the new growing plants.

We said that lime is *alkaline*, resembling potash and soda. There is another class of substances having opposite properties called *acids*. Vinegar, lemon juice, and oil of vitriol, are examples. The acids and alkalies neutralize or destroy each others' active properties, and unite together forming compounds (called salts), which are inert, often tasteless. Sour vinegar unites with alkaline soda, and forms a simple neutral salt. Almost all vegetable matters when decaying in the soil, especially if it be wet, form some acid substances. These dark colored acids, are called humic acid, crenic acid, etc., and we add lime to neutralize or destroy them, and thus sweeten the soil. So, then, when sowing the lime, the farmer may be thinking about the elements of the lime, its metal and its oxygen, and what offices it is to perform in the soil. Remember what is here said, and at another time we may talk of that other very different compound of lime, called plaster of Paris, and how it acts on the soil.

ABOUT MORTAR.—Sand, called *silica* by the chemist, is in reality a kind of acid, which unites with alkalies. It is made up of one atom of a brown substance called *silicium* (Si), united with three atoms of oxygen, thus, SiO_3. Sand or silica and fresh lime mixed together, in time unite and form a hard salt.—*Mortar* is a mixture of sand, lime and water. The lime continues to attract carbonic acid from the air which displaces the water, and the mortar cement grows harder with age. So, also, it is probable that the silica slowly unites with the lime, forming the silicate of lime (CaO,SiO_3,) which makes the mortar harder still. Two atoms of Aluminum, a metal, unite with three atoms of Oxygen, (Al_2O_3), and this with silica forms *Clay*, (Al_2O_3,SiO_3). *Hydraulic Cement*, which hardens under water, consists mainly of lime, clay and silica. When wet together, these form a double silicate of lime and alumina, and absorb much water. This is not a very definite compound, but is probably $CaO,Al_2O_3 2SiO_3+12HO$.

SLAKING LIME.—If we add water to fresh burned stone lime, every 28 pounds of lime will unite with 9 pounds of water, to form a new compound called hydrated lime. This falls to pieces. The condensation of the water and lime gives out a large amount of heat which was before latent or concealed. After long exposure, lime gets this water from the air, and falls to pieces or is air-slaked. As above explained, the carbonic acid it gets at the same time, injures it for mortar, and for spreading on land. The best way is, to always get fresh burned lime, that which is in lumps, and not yet watered or carbonated by the air.—It will be seen also, that in every 37 lbs. of slaked lime a man buys, he gets 9 lbs. of water—quite an item where it is to be hauled any distance. Twenty eight tons of fresh lime contains as much real lime, as 37 tons of slaked lime, or 50 tons of fully carbonated lime.

Make a Snow Plow.

"D." of North Branch, N. J., sends to the *Agriculturist* the following timely suggestion: "I am often distressed at the amount of inconvenience occasioned by neglecting to open paths through snow, so as to secure good walking, not only for visitors in approaching the front door, but (and quite as important,) for members of the family in excursions to the wood-pile, barn, cattle, pig, and poultry yards, etc. Of course, every body would prefer a good path, but it is tedious and hard work to make it, and so it is too generally left among the things undone. I long ago adopted an expedient by which I turned the *work* into *play*.

I took two pieces of inch-and-a-half plank, about two-and-a-half feet long, and ten inches wide. I beveled one end of each, so that when stood on edge and nailed together they presented the appearance of the letter V, flaring from a point at the junction towards the other extremity of the affair, so as to give an opening of about two feet. I then nailed a covering, making a platform. I had the under edges shod with old wagon tire, welded at the point, and turned up about the thickness of the iron. One third of the way backward from the point I fastened the extremities of an iron rod bent into pretty much the shape of a bucket handle, in the center of which rod is a stationary ring for securing a whiffletree.

Such is the *machine*. If 'the ground is all covered with snow' to-morrow, I need only hook a horse to it, mount the platform, and go ahead, opening a clean path to the ground. The permanent investment amounts to a mere trifle. The advantages are great. Fifteen minutes are enough to make all the paths required on any ordinary premises, and the labor is not worth naming.—If one such implement were kept in a village, every body's paths could be made clear to the store, post-office, school-house, and church, through all ordinary snows, without back-aches or pocket-aches; and depend upon it, if the thing once becomes an experiment, it will soon pass into an institution, both of the farm and of the neighborhood."

[We agree with "D." that a snow plow is an institution which should be more common than it is. We recollect passing a part of a Winter in a country town where the paths were opened by a snow plow, and can testify to the thorough manner in which it does the work.—ED.]

Sheep-Farming in South America—A Chance for Enterprising Young Men.

Having recently returned from the Argentine Republic, I am able to give some account of the extensive business of sheep-farming as it is carried on in the Southern Wool Zone of this continent, which may interest the readers of the *American Agriculturist*, particularly as wool-growing has of late increased so much in importance in our own country.

The sheep-raising country of South America consists mainly of vast plains or "pampas," resembling our western prairies in extent and bleakness, but not in the general character of their herbage. The grass is green throughout the year, except in dry times, and is much finer than that of our prairies. In the Summer (November to March) these pampas are covered by an immense growth of plants like thistles, the stalks of which are so high in some places as to hide a man on horseback from view. These are very troublesome to sheep-raisers, because they make it hard to watch the sheep, and because the burs get into the wool. In Winter the stalks die, and sheep and cattle eat the green leaves at the ground. On these plains no trees are to be seen, except a few small ones around the houses. Streams of running water are scarce, hence land on the rivers is in greater demand, and commands a much higher price than in the interior. Here and there on the pampas are small lakes or "lagunas," where the cattle get water, but in time of drought most of them dry

up, and cattle sometimes have to travel a hundred miles for water. I saw one large lake, the bottom of which was whitened by the bones of cattle and horses which had come there at such a time; these rushed madly into the water, and being weak and exhausted, could not extricate themselves from the mud. Sheep get along with but very little water, and when the grass is almost entirely burut up by the sun, nothing green to be seen, and the clouds of dust stifle one, if they can get a pint of water a day, they will live for weeks. The deprivation they can endure is almost incredible.

Sheep-raising there is generally done on shares. A large farm, or "estancia," consisting of from three to eight square leagues, (5,760 acres is a square league,) is divided into sections, and on each section is built a small one-story house, of mud or sun-dried brick, with one or two rooms, which is let by the owner or owners of the estancia to a person who takes care of a flock of his sheep on shares. The shepherd, or "puestero," as he is called, on entering into this contract, either buys one-third of a flock of about 1,500 to commence with, or pays to the owner interest at the rate of from 9 to 15 per cent. on their value. The contract is for three years, and in this time the flock should double. The shepherd gets one-third of the wool and one-third of the increase each year. He pays a low rent for his house, and has all the mutton he wants to kill. The sales of the wool for the first two years pay all his household expenses, even if he have a family, and leave him a good surplus the third. He will then, if purchaser of one-third at the start, have about 1,000 sheep of his own, and can form, if he chooses, a new contract with the owner of the estancia, on halves for one year, and so on until his flocks increase, and he finally becomes manager of several flocks. Some poor grades of sheep may be taken on thirds without having to buy any at the start; but a share has always to be bought in flocks producing a good quality of wool. Importations of German Merinos, within the last 8 or 10 years, have much improved the character of many flocks. Large importations of blooded sheep arrive often, and sell at high figures. I saw a ram sold for $650, (gold,) $1,000 refused for another, and ewes sold at $100 to $80 each. For medium native flocks, well bred, sold "in a cut",—that is, rams, wethers, ewes, and lambs, together,—from $1 50 to $3 50 (gold) is paid; if all ewes, somewhat more.

The sheep have no covered shelter throughout the year, their only protection being merely wire, or rarely narrow board inclosures called "corrals," in which they are shut at night. The herdsman is on horseback with them all day. The section limits are marked out, and he must see that they do not get off their own ground, or mix with other flocks. To distinguish and separate them, they are all marked by cuts in the ears. Stormy and rainy nights the sheep are kept out of the corral, on the grass, lest the mud damage the wool, and then the shepherds have to remain up all night, occasionally riding around them, or "rounding them up," to prevent their straying off and getting scattered and lost. The storms are sometimes very severe, and the strong winds, or "pamperos," in their furious course oftentimes cause considerable confusion and loss in a flock, as the sheep start and run with the wind, so that it is impossible to stop them. Many lambs are thus lost, and also by the exposure in Winter, when the ewes lamb. On a cold night the shepherd has to get up three or four times to walk through the flock and see if any lambs have come, and if so, take them into the house and keep them warm until morning, when they are taken to the flock, and their mothers easily find them. Winter is considered a better time for lambing than in Summer, when the heat is so oppressive that the ewes will leave their young and let them die. It may be seen how many lambs die when a flock only doubles itself in three years, and yet some of the ewes lamb twice a year. The droughts or "secos" are also great drawbacks, the entire increase of the flock sometimes dying from that cause alone. As a guard against the disastrous results of these secos, on the best Estancias each puestero has planted near his house two or three acres of "Alfalfa," or Lucerne, which strikes its roots to an amazing depth, and thus is able to withstand severe dry weather. They can cut it once a month, and get a very good yield for five or six months of Spring or Summer. It is excellent feed, and in a drought the only salvation of the flock. The sheep require constant care, such as would only be given by an interested party; it is for this reason that the business is done on shares, and not by hired laborers. Many young men (a good many Americans) are engaged in this sheep-farming, living alone in these "puestero houses," who start on thirds and follow it up until they gain a competence in many less years than a clerk in almost any commercial business starting on the same capital. Irishmen (where are they not?) who went there 20 years ago without a cent, are now the proud owners of thousands of acres and tens of thousands of sheep. He who goes must be prepared for bachelor's life in earnest, washing and cooking for himself, making his own bed, sweeping out the house, etc. By the way, they have no coal or wood there, but burn sheep manure or "bosta," cut in the "corrals" and dried in the sun. It emits no offensive odor, makes a very hot fire, but you have to keep adding more and raking out all the time. It is not *quite* as good as coal.

OVEJA.

Cheese-making—Manufactories and Associations—Their Mode of Operation, and Advantages.

Cheese manufacture is making most interesting progress. For many years the business of cheese-*selling* has controlled cheese-*making*, in some parts of the country, by associating the dairymen to a certain degree, so that not only has a steady demand been created for certain kinds of cheese, but very uniform and remunerative prices have been obtained by the makers. A class of merchants, whom we will call Cheese Factors, residing in the district where the cheeses are produced, engage the dairymen to make cheeses of a certain character, and these factors enter the market with the products of perhaps a score of dairies—not as speculators but as producers.

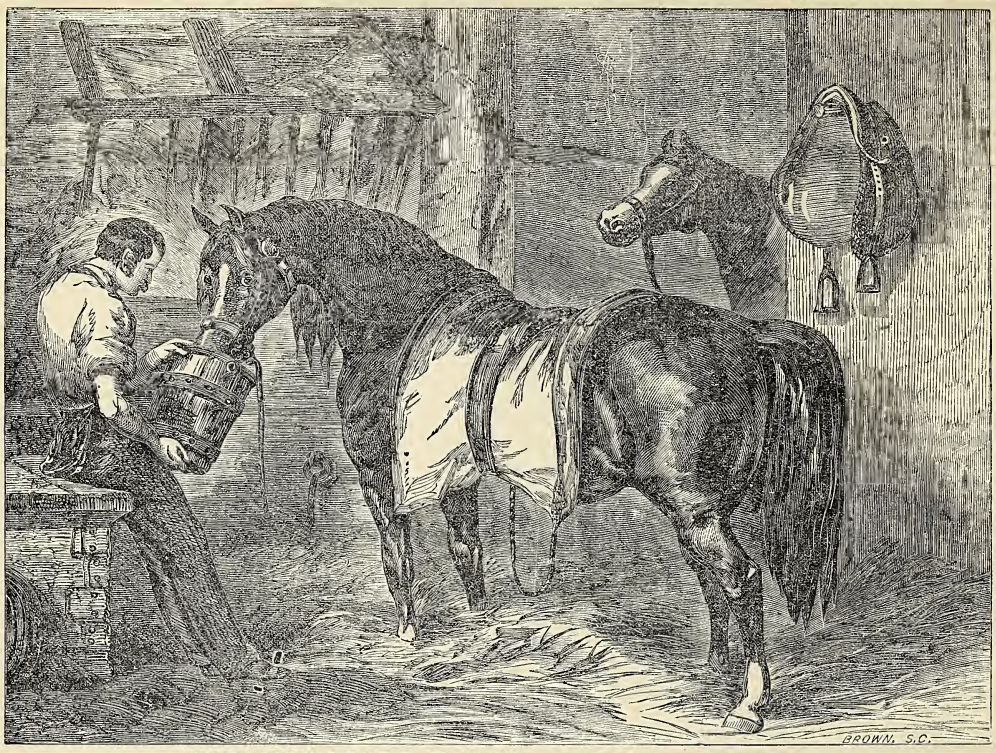
The cheeses are made as nearly of a uniform size as is possible in families, and delivered to the factor when a few weeks old. All the dairies which supply cheeses to the same factor, receive accurate directions from him how to scald the curd, how deeply to color, and how to finish the cheeses. Generally, also, we believe the dairy supplies of boxes, bandages, etc., are to be obtained from the factors. These cheese-merchants store the cheeses in large quantities, assort them, brand the boxes, and watching the market, are enabled to fill contracts for shipment, or take advantage of a rise in prices, with great success. The cheeses are sometimes sold on commission, but are usually bought by factors or country dealers directly from the farmers. There is, however, always a great difference in cheeses made by different persons, and too often in those made in the same dairy, however great the care of the factor in frequently visiting the dairies supplying his stock.

We recently visited part of the dairy region of the "Western Reserve," Ohio, (where formerly the system of receiving the *curd* from the farmers, and making and curing the cheeses at a "factory," was tried and finally given up.) Throughout this region, and also extensively in the State of New-York, the much superior system of receiving the *milk*, morning and night, and conducting the entire process at the factory, is rapidly gaining in favor with the farmers. These establishments are known as "Cheese Factories" or "Associated Dairies." They are conducted on two totally different business methods, but in their management of the milk, curd, and cheeses, they are very much alike. An "Associated Dairy" is managed by the farmers who supply the milk; they are united as a business firm or a joint stock company. The association puts up the dairy buildings, hires the dairy-folk and business agent, and divides the profits in proportion to the stock owned and milk furnished. The other class of establishments are owned and managed by individuals. In some cases these persons buy the milk brought to them, at a stipulated price per gallon. Others receive *one cent* per pound on the cheese made, to cover the entire cost of *labor* up to the time the cheeses are ready for shipment. When the cheeses are sold, the cost of salt, rennet, bandages and boxes, and of transportation and other expenses of selling, together with the one cent per pound for labor and supervision, is deducted; the net proceeds are divided among the farmers, in proportion to the amount of milk furnished by each.

The price which "Factory-made cheese" commands in this market, is 2 to 3 cents per pound more than can be realized by the private dairyman. The expenses of manufacture, even allowing 1 cent per pound for labor, are greatly reduced, and the result is not only a pecuniary gain to the farmer, but a relief from all the labor of the dairy, except washing the milk-pails. There are, however, several difficulties. People, even farmers, are not all honest. Some will water their milk, either after it is drawn, or in the watery messes fed to the cows. The milk may be filthy and sometimes sour rapidly, owing to uncleanliness of the cows or milk-pails, or the length of time which intervenes between the milking and its delivery. So dissatisfactions will doubtless arise, and few associations continue long without *some* hard feelings.

The particulars of the manufacture we can not discuss in this article. There is, however, no reason why in every cheese-making community there may not be one or more factories established. Doubtless the "Associated Dairy" principle is best for the farmers if well managed, and if some of them are not too tricky. The cheese is made on the well-established principles recognized in all good dairies, and on so large a scale that greater uniformity and a superior character is the invariable result. This it is seen is appreciated in the market, and will rapidly work a great change in our dairy system.

JUSTICE gives to every one according to his due, and provides that injury be done to no one.



THE FAVORITE HORSE.—*Engraved for the American Agriculturist.*

A Good Horse—Notes on Thorough-Breds.

The mental and physical qualities of a good horse are too well known to need enumeration. For the former we love him, call him noble, faithful, generous, willing, and kind, while his strength, endurance, and speed, make him a most valuable servant; and it is only in the abuse of his gifts that any thing but good comes to man. Mentally the horse has few equals among the brutes, and among horses, the thorough-bred exhibits the highest intelligence and quickness of perception—accommodating himself most readily to the exigences of the moment, whatever they may be; avoiding difficulties, and extricating himself from them when unavoidably encountered. The ability to be vicious, whether brought into exercise or not, may be classed among the *moral* qualities of a horse, as distinguished from the intellectual; so also what is called honesty and its opposite treachery, restiveness and patience, with many others. The thorough-bred horse is also distinguished in these respects, and whether the good or evil traits be developed, depends almost wholly upon the men with whom he associates. In his physical nature the thorough-bred is universally recognised as the best of this greatly varying species. In fact, it may be asserted that in every respect, in every part of the world, (except perhaps within the arctic circle,) for every purpose (allowance being made for weight) he has no equal among horses. His bone is firmest and finest in texture, his muscle is tensest and most elastic, his sinews hardest and most firmly attached, his frame close knit and compact, his nerves high strung but under his control, his brain large, his chest capacious, and his form the perfection of equine symmetry. A sentiment, which horse-men the world over will endorse, is attributed to Sir John Fenwick, who uttered it some 200 years ago. It is this: "Every thorough-bred, or 'blood-horse,' even if he be the meanest hack that ever came out of Barbary, is so infinitely superior in courage, stoutness, and quality, both of bone and sinew, as well as blood, to the best cold-blooded mare that ever went on a shodden hoof, that he can not fail to improve her stock, whatever be his comparative standing among racers."

A thorough-bred or blood horse, be it remembered, is one descended, through a line of English racers, from the blood of the Desert, including the pure Arabian, and also the Barb, Turk, Persian, and Syrian, which all possess the same general characteristics, and trace their origin to Arab blood or to crosses with it. No horse is recognized as thorough-bred which does not bear a pedigree going back without a flaw to this Oriental source. The presence of any "cold blood," as that of all other horses is called, even though there be no more than 1-32nd or 1-64th, vitiates the purity of the blood of any animal, and he with his progeny loses all title to this proud designation. The thorough-bred, while we claim for him symmetry and beauty of form, abstractly considered, does not possess the style, elegance, and solidity, prized in a carriage horse; nor that practical business look, combining an appearance of strength and speed, which we demand in a roadster; he lacks also the massive strength which weight gives, and which we value in the horse of all work, no less when he is used in the dray, than before the plow. The "terrible glory of his nostrils" he possesses, but the "neck clothed with thunder" belongs more peculiarly to some of the heavier breeds. There is, then, an elegance of strength and style, a certain pride of action and beauty of fitness for certain kinds of labor, which give great value to other breeds, particularly when their blood is blended with that of the thorough-bred. The fine engraving which we present, shows very strikingly these points of beauty and elegance alluded to, combined with some of those fine qualities which indicate "blood," and affords us an opportunity to enforce the lesson that blood on the part of the sire serves to develop and refine the good qualities of the dam as imparted to their offspring. The points to be sought in a breeding mare are: size, beauty of form, together with capacity of barrel and pelvis, freedom from constitutional or hereditary defects, as well as from a perverse irritability of disposition. In the horse, let us remember that the more blood we have, the better, and that a thorough-bred is of course better than the best cold-blooded or 99-100ths-blooded horse we can breed from. The good points of the Morgans and Black-Hawks, which are so much used now-a-days as stock-getters, are chiefly due to blood, and were we to return to the use of thorough-breds so much as possible, we should at once see a commensurate improvement in our stock. The use of thorough-bred stallions ought to be so persistently encouraged by our agricultural societies, that all who can will secure their services

Herd Records—Breeders' Association.

There has been in existence for several years an "Association of Breeders of thorough-bred Neat Stock," which has quietly accomplished at least the beginning of what promises to be of great service to American farmers. Among the members are breeders of all the prominent breeds of neat cattle, particularly of Short-Horns, Devons, Ayrshires, and Alderneys. It was generally admitted that English and American Short-Horn Herd-Books contained the names and pedigrees of many *grade* animals, in some cases at least, inserted in a manner likely to deceive and lead to the blending of impure blood with that of great value. The same was to a certain extent true of the Devon Herd-Book, the pedigrees resting upon the representations of the owners of the animals; while for the other breeds there existed no Herd-Books. This Association therefore determined to keep a *record* of animals *belonging to its members*, and to admit no pedigrees to be recorded which should not first receive the approval of the Association after examination by competent and conscientious committees, to whom should be presented the documentary evidence, bills of sale, of importation, etc., going to establish that the animals in question descended from those recognized as of pure blood in Great Britain. Where necessary, the committees were expected to examine the animals themselves, and to reject those showing marks of impurity. From time to time the committees reported; their reports were thoroughly canvassed by the society; doubtful pedigrees were referred back for further investigation, and the reports of the committees on Short-Horns, Devons, and Ayrshires are now published in a single volume.

The Short-Horn Herd-Record contains the approved pedigrees of 71 bulls and 81 cows.

The Devon Herd Record.—The Devon breeders became members of this Association so generally, that the publisher of the American Devon Herd-Book, Sanford Howard, of Boston, turned his papers over to the Society, giving it his influence and co-operation. The Devon Herd-Book is now issued under the direction and subject to the rules of this Association—the labor of arranging and editing having been done by Horace M. Sessions, of South Wilbraham, Mass. 152 bulls and 351 cows are recorded.

The Ayrshire Herd Record.—For several years the Ayrshire breeders of Scotland and England, have been discussing the subject of an Ayrshire Herd-Book, but hitherto none has been put forth. It is to the credit of American farmers that this work has been done here, and so well done. The pedigrees of 79 bulls and of 217 cows are recorded, representing the herds of 129 breeders.

It is much to be regretted that the committee on Alderney or Jersey cattle did not report. The reason we presume to be that so many *grade* animals have been sold as thorough-breds, that the labor of proving which ones had reliable pedigrees tracing back to the Island of Jersey, was so difficult, and the odium to be encountered, where animals were thrown out, so great, that the committee failed in their duty to the Association and to the country. If only fifty animals could be reported as unquestionably of pure blood, they and their owners should have the credit of it. The "Herd Record" and circulars of the Association, may be obtained through Henry A. Dyer, Secretary, at Hartford, Conn.

Best Time to Paint Houses.—Experiments have indicated that paint on surfaces exposed to the sun, will be much more durable if applied in Autumn or Spring, than if put on during hot weather. In cool weather it dries slowly, forms a hard glossy coat, tough like glass, while if applied in warm weather, the oil strikes into the wood, leaving the paint so dry that it is rapidly beaten off by rains.

Chinese Sheep.

A number of inquiries have been made recently in regard to these sheep. As yet the breed has figured very little in our Agriculture, and has few advocates. It is now several years since we have seen any, and so little has transpired in regard to them, that we have concluded that the extravagant expectations, which were entertained of them, have not been realized. This may be a mistake however. There is no doubt that the ewes are exceedingly prolific, breeding once in six months and bearing twins, triplets, or even four lambs at a birth. They begin to breed also when only a few months old. The size is good, and the mutton has been pronounced good, perhaps by interested parties. The writer has eaten it with satisfaction. The wool is exceedingly white, glossy, coarse and hairy, and there is not a great deal of it. These sheep are hornless, lop-eared, long and bare-legged, with great masses of fat upon their rumps, and having short but very broad and fat tails. The great impulse wool-growing is receiving, on account of the high price of wool, perhaps prompts the inquiries we receive. Whoever expects profit from these sheep as wool producers, will be disappointed, but for mutton and lambs, we know no reason why they may not be raised with advantage. We shall be glad to hear from any of the readers of the *Agriculturist* who can give us *facts* concerning this, or kindred breeds of sheep, particularly in answer to the questions: Is the mutton good or profitable? and do they maintain the astonishing fecundity exhibited when first imported?

Giving Chloroform to Animals.

Insensibility to pain during severe surgical operations, is induced in the human subject by causing the patient to inhale ether, chloroform, or a mixture of equal parts of ether and chloroform, which is most commonly employed. The same agents produce the same effects when inhaled by domestic animals. This enables the surgeon or veterinarian to perform very difficult and even dangerous operations with comparative ease. The struggles of the animal being only mild, senseless. spasmodic twitches which are easily controlled. There is of course some risk of giving an overdose, but this need never occur if a little care be exercised. To apply the anæsthetic agent to a horse, pour upon a towel folded to about a foot square, enough of it to wet a surface in the centre as large as a tea saucer; then lay this upon the horse's nose and cause him to inhale the vapor which rises, mixed at first with much air; gradually, as he becomes accustomed to the smell, let him breathe it a little stronger, and even close the towel down upon his nostrils, but not so as entirely to exclude the air. His eyes will soon show that bewildered look indicating the approach of the profound stupor which will soon after affect him. Of course he should be firmly held or bound, so that under any circumstances he will be perfectly under control. Animals usually stand up through ordinary operations, but if they get too much of the chloroform and ether, they may fall. This must be provided against, and while the animal has still consciousness he must be made to lie down. For the performance of many operations consciousness need never leave the animal, and it is often best it should not. A condition of entire unconsciousness, particularly if accompanied by a very feeble pulse, indicates that enough of the anæsthetic has been administered for present needs, and the cloth may be partially or entirely removed, to be applied again, however, should the *coma* or insensible condition not last long enough.

Besides the use of these agents in effecting insensibility in cases of surgical operations upon injured or diseased animals, by their means a fractious horse may be made manageable while being shod; colts may be gelt, cows spayed, and many other similar operations performed which any ingenious farmer may do himself after a proper investigation.

Preparing Fuel, and Kindling Fires.

Friend B., of Cecil County, Md., adds further suggestions to our fire-building article in the December *Agriculturist*, designed more particularly for farmers who use wood only. We have barely room for the following epitome of his letter:

To save time in the morning is important; let the wood be cut, split, and well dried. Wood seasoned where exposed to the weather, is far inferior to that cut green and dried under shelter. It is most easily cut and split while green. [It is bad policy to burn green or damp wood; half or more of the heat is lost in drying out the water].—Where wood is abundant, a capacious fire chamber, in fire-place or stove, with large doors, promotes expedition in kindling, and facilitates heating and cooking. Farmers having a free home supply of wood, know that the chief expense is in cutting and splitting for small stoves. These require the rejection of knots, which are often the best portions to keep up a fire, or a good enduring bed of live coals to start with in the morning. The large stove or fire-place admits the large pieces and knots, and thus saves much work in cutting and splitting.—By pipes or even by openings in the ceilings, involving little or no expense, the surplus warm air from the stoves in lower rooms may be carried to the upper rooms and attic, and keep them all above freezing temperature, in the coldest weather. The question of economy between coal and wood, much discussed here, and elsewhere, depends mainly upon the relative cost. Coal at any price is preferable to green wood fresh from the grove or snow bank. A large *covered* pile of dry wood may change the question. Some use dearer coal simply on account of its keeping fire longer and even over night, who would change their reckoning if they learned to have dry wood ahead, with the liberal supply of large knots, and the spacious stove to use them in. A little intelligent reasoning on the subject would make many more farmers independent of the rioters of Mauch Chunk, [and of the grasping coal companies.]

It is better to decide a difference between enemies than friends, for one of our friends will probably become an enemy; on the other hand, one of our enemies becomes a friend.

It is a great misfortune to live under a government that will suffer people to do nothing; but it is a much greater to be under one which allows all to do as they please.

The Curculio is Repelled by Water.

To the Editor of the American Agriculturist.

At the "Fruit Growers' Meeting," as reported in the October number of your excellent periodical, the plum curculio was under discussion. I notice one gentlemen remarked he "heard much about the instinct of the curculio, and that the female will not deposit her eggs over water; but a visit to Dr. Underhill's place where the plum trees hang over a pond, proved that such was not the case, as the plums overhanging the water were equally affected with the others." I take the liberty to say the gentleman is mistaken, and will explain how he fell into the error.

The usual care bestowed on plum trees planted near my house, having failed to secure a crop of plums from the ravages of the curculio, it occurred to me some fourteen years ago, that the presence of water under the tree might deter the insect from placing its progeny where it would be inevitably destroyed. I planted about one hundred plum trees of the choicest kinds (most subject to injury from the curculio) on the margin of a two-acre pond, formed by removing the alluvial soil to enrich my farm. The pond is supplied with salt and fresh water, as well as fish, through sluice-way connections with the mouth of Croton River. The plum trees, of large size, were planted on the side of the bank, from one to two feet above the water at high tide, at an angle of from 35° to 40°, so that the tops might hang quite over it. They have borne fine fruit with as great, if not greater certainty than my apple orchards. I have had plums when I failed to secure a crop of apples. I have had crops of plums when, so far as I could learn, there was an entire failure through Westchester County. Finding my experiment succeeded so well around my pond, I concluded to plant plums and nectarines on the banks of the ditches in my reclaimed meadows. My sluice-ways connected with these ditches leave them '*bare of water*' at low tide, every day for three or four hours. The insect during this period perceives no danger from placing its nits in the fruit—and it has done so to the destruction of nearly all the crop for a number of years. The loss here has been nearly as great as when planted on the dry land.

The twelve years of successful culture of the plum around my pond, and the six years of failure to secure a crop of ripe plums and nectarines over my ditches that run bare at low tide, induced me to commence another pond that I might remove these to it, and secure them also from the ravages of the insect. To obtain the proper depth, it was necessary to discharge the spring water through sluice-ways into the other pond, and to keep the tide-water low in the latter we were obliged to shut out most of the water from the river, which left a few plum trees on a shoal part of the pond, free from water several hours every day. Many of the plums that hung on the trees over this bare spot were stung. These were the trees, the examination of the fruit of which, led the gentleman whose remarks I have above quoted, to believe my experiment was not a success—and yet it furnishes the strongest proof in its favor.

I have seen the segment cut in the plum in a very few instances where it hung *constantly over water*, but have failed after twelve years search to find the larva of the curculio in the plums in this position, though "marked by the Turk." The Bolmar or Washington plum is so subject to attack from the curculio, that for many years my trees planted on dry ground failed to secure a single specimen at maturity. I now ripen, on a single tree, hanging over the water of my pond, more than a bushel without a blemish. I have the pleasure to state further that I have been assured by several persons who have planted plum trees over water within the last five years, that the result has been with them entirely satisfactory. R. T. UNDERHILL, M. D.

Croton Point Vineyards, Nov. 17th, 1863.

The Cause of the Grape Rot.

The decay of grapes after they have attained their full size, has been of more frequent occurrence this past year than usual. Varieties, which like the Concord have generally been free from all disease, have been attacked in several localities. The matter has been investigated by F. G. T. Ludas, of Wisconsin, who has communicated his views to the Cincinnati Horticultural Society. Mr. L. finds that the decay of the berries is accompanied by a diseased condition of the roots; that vines which grew in ground covered with turf or by fallen leaves, were less attacked than others, and that when the ground was not well covered with snow during the previous Winter, the rot was more likely to appear. If it really be the case that the destruction of the berry is due to the injury of the roots by frost, the obvious remedy is to cover the ground with a protecting mulch of some non-conducting material. Coarse manure would protect the roots from frost, and also enrich the land and promote the vigor of the vines.

Training the Grape-Vine.

A correspondent in Schuyler Co., N. Y., says that he dissents from the method of pruning the vine described in the November *Agriculturist*, for the reason that "only ten spurs, with two buds each, in all twenty buds, are left. The shoots from these buds will produce three, or at *most*, four bunches of grapes each, making in all *at most* only eighty bunches for the whole vine—not half enough for a strong vine four or five years old. It is very easy to manage a vine for two or three years, but not so easy a vine eight or ten years old and a rampant grower. I have some of the latter, which truly bear bushels every year, and it is a task to keep them within bounds and at the same time not cut them to death. I should like to see Mr. Fuller's plan extended to suit a vine capable of bearing a thousand bunches."

Our correspondent's complaint is given in full, for the reason that it is a good illustration of a very common failure to appreciate the reason for training the vine at all. The fruit of the vine is always borne on new wood; that which has borne fruit, if allowed to remain, only cumbers the vine, and its fruitfulness is diminished. A vine allowed to run wild produces its fruit near the top, and is year by year more out of reach. In training and pruning, the aim is to always have a supply of new wood, and to keep the bearing portion of the vine within reach. Each vine is allowed to bear but a moderate crop, and all experience shows that this will be of larger and better-ripened fruit than if a greater quantity be permitted. After the arms are established, the vine is easily kept in control, no matter how rampant a grower it may be. There is no more "rampant" vine than the Hartford Prolific, yet we have seen this kept perfectly within bounds by the method of which the gentleman complains. His difficulty in managing his own vines shows that they were not started right, for had they been laid down with arms of definite length, he would not have his present trouble. We have seen, in other countries, vines nearly a century old, which had certainly been kept within bounds, as their arms were shorter than those we have described, though the trunk was as large as a man's thigh. If our correspondent wishes to train a vine to bear one thousand bunches, he can do so if he will take the time for it, but it is far preferable to have many vines bearing fewer bunches, as they may be had in full bearing in three or four years from the time of starting. The methods of pruning and training described in November are the simplest, and were given to show that there is no great secret in vine-dressing. There are other modes, essentially the same, described with an amount of detail which deters most people from attempting to do anything with their vines. An observance of the rules given in the article alluded to, will enable any one to start a vine in the right way, and keep it so with but little trouble.

Queries and Notes on Grape Culture.

The great interest which has been awakened in grape culture, manifests itself among other ways, in the numerous letters of inquiry sent to the *Agriculturist*. Some of the writers will find that their questions are already anticipated in previous numbers; others are replied to in the present article. It may be well to state, in passing, that the demand for vines during the past Autumn has been unprecedentedly large, and many of the nurseries are already exhausted of some varieties. It will be well for those who intend to plant next Spring, to send their orders to the nurserymen at once. Several have requested a list of the time of ripening of the leading varieties. It is not possible to give dates which will answer for all regions, but we name those of a single locality near the City of New-York, remarking that this is only for the past year, and that its only value is in giving the comparative time of the different sorts: (Creveling in Penn., Aug. 25;) Hartford Prolific, Aug. 25, to Sept. 1; Delaware, Sept. 1—10; Allen's Hybrid, Sept. 1—10; Concord, Sept. 10—15; Catawba, Sept. 15—20; Iona, Sept. 15—20; Diana, Sept. 15—20; Elsinburgh, Sept. 20 Union Village, Sept. 20—25; Anna, Oct. 1; Herbemont, Oct. 1—10. These dates are generally earlier than those at a short distance North, and some of them are later than have been published.—We are asked to name an early grape which will sell as well as the later ones. The earliest reliable grape we have is the Hartford Prolific, but there are others of great promise, which are yet to be tested in general cultivation. The Creveling and Israella have in certain localities shown that they have claims to an extended trial, but as yet they have not been sufficiently proved to induce us to recommend them for general planting for marketing.

The inquiry is made, if tender foreign grapes may be made more hardy by grafting upon native stocks. Doubtless those varieties which have hardy wood and tender roots may be benefited by this treatment, but the rigor of our Winters is such that the hardiest of the foreign grapes will succeed only in very sheltered localities. A subscriber in Kentucky, asks for a list of wine grapes for his State. Norton's Virginia, Cassidy, Louisiana, and Concord, are among the prominent sorts grown in Missouri, and would probably answer for Kentucky. The statistics he asks, are not in our possession.

Wine Grapes.

A grape for wine making must contain a large amount of sugar; the grape may not taste sweet, as the sugar is often concealed by the presence of acid, still it must be there or the grape will be worthless for wine. As the same variety will have a more or less rich juice in different localities, it will be seen that the opinion of a vine grower in Missouri as to the wine making qualities of any particular variety, will not hold with regard to the same grape grown in New-York. So far as is yet known, the Delaware stands at the head of the list of wine grapes for the northern and eastern States. The Concord is now receiving attention as a wine producer, and we notice that specimens of its wine were ranked higher than the Catawba by the Association at Cincinnati. Whether this verdict will be sustained in other localities remains to be seen. The Clinton and Diana have their advocates as wine grapes, and it is probable that a mixture of several varieties will afford a better wine than any one will singly.

Do Varieties of Fruit Degenerate?

M. Decaisne, Professor of Cultivation at the Garden of Plants, Paris, says that they do not. This is against the popular belief, and contrary to the opinions of some pomological writers. Prof. Decaisne, who is high authority, says: "The notion that fruit-trees degenerate because they are propagated by grafting, is an error which must be exposed. There is no single fact to prove it. Those which have been cited, depend upon totally different causes, first and foremost among which are climate, unsuitable soil, and very often bad cultivation or a neglect of pruning, so common nowadays. Our ancient pears, which a century or two ago were so justly esteemed, are now exactly the same as they ever were; they ripen at the same time, and keep good just as long....The pretended degeneracy of ancient races is really nothing more than one of the clever devices of the present day."

The Effect of Cross Fertilization.

That some varieties of plants do become fertilized by the pollen of other varieties and thus "mix," is a fact which has presented itself to the observation of every cultivator. With squashes and their relatives, as well as with many other plants, this tendency is often very annoying, as it prevents the preservation of desirable sorts. The question frequently occurs: in cross impregnation does the influence of the pollen applied this year manifest itself in any effect upon the *fruit* of this year, or does it remain latent in the *seed*, and only appear when fruit is obtained from that seed? There are many instances which go to show that an effect is produced the same year. The change in Indian corn is one of these, and it is stated on good authority that beans and squashes also show the effects of cross impregnation the first year. An observing fruit grower informs us that the Hovey's Seedling strawberry, a pistillate variety, cultivated in some localities, differs very much in quality according to the kind with which it is fertilized, it being less acid when impregnated by the Boston Pine, than by the Early Scarlet. Now as the so-called fruit of the strawberry is not the fruit in the botanical sense, but merely the enlarged end of the stem on which the true fruits, popularly considered seeds, are borne, it would seem that the pollen of one sort has the power, not only of affecting the fruit proper, but of extending its influence beyond that to the receptacle or enlarged end of the stem at the bottom of the flower. This is a subject upon which there is little positively known, and one which affords an excellent field of observation for the curious. It would be interesting to know how far this cross fertilizing affects the quality of our fruits, and it suggests the idea that the variation of the same fruit in different localities is not due to soil and climate alone. We shall be glad of any facts bearing upon this subject.

The Failure of Small Seeds.

It requires a great deal of care to succeed with very small seeds. If covered too deeply, they will not germinate; if planted very shallow there is danger that the surface of the soil will get dry and the little plant perish for want of moisture. In the March *Agriculturist* (page 75) the principal causes of failure were stated, and the subject is referred to again, as two instances have occurred in which the fault is laid at the door of the seedsman. A gentleman purchased a package of petunia seed of one of our neighbors, and afterward complained that portulaccas came up instead. He was assured that there could be no mistake, so he sent back the portion of the seed which had not been sown, which was submitted to our inspection. The seeds returned were to all appearances those of the petunia, and certainly not portulacca seeds, which are so remarkable in their exterior as to be at once detected. The figure shows the peculiar shape and markings of the portulacca seed, as it appears under a common magnifyer. Those having a microscope or magnifying glass, will find these seeds most beautiful objects to look at; they are shaped like little shells, have a fine metallic lustre and pretty markings. The second case was that of a person who sent us a mullein leaf as a specimen of the product of a paper of tobacco seed sent from this Office. As the seed was obtained from a source above suspicion of fraud, and this being the only complaint of it we have had from some thousands of similar packages, we are safe in concluding that the fault was not in the seed. The probabilities in both instances are, that the seed sown failed to germinate from some one of several causes, and that the plants alleged to have been produced by them were from seeds already in the soil.

Sand on Cranberry Meadows.

"Selahammah," of Fall River, Mass., writes: "My experience teaches me that putting sand on peat or muck soil at least, is worse than labor and cost thrown away. Some years since, I took some peat from a swamp for fuel, and then leveled off a sufficient quantity of the refuse for a cranberry patch. Having heard and read so much about the benefits of sand, and having a quantity of it from a well which I had been digging, I gave the beds a good coating. In addition to the swamp grass, the sand brought in all sorts of domestic weeds and grasses, and I have had a tedious job to keep them cleaned out. I have pretty effectually done it, but the fact is, that it has been more work than the vines are worth. In a swamp directly adjoining my lands, where cranberries are cultivated without sand, it has not been a quarter of the work to keep out the weeds and grasses."

Open Heads for Fruit Trees.

Most orchard trees have their heads altogether too crowded; the limbs are allowed to fill up the centre so that light and air are excluded, and the full development and maturity of the fruit prevented. A distinguished pomologist in giving directions for pruning an orchard, advised to leave room enough in the centre of the tree for a barrel into which to pick the apples; and he was not far from right. It requires but little trouble to get a tree into good shape, if it is attended to while young, when the knife will do the work, which, if neglected, will necessitate the use of the saw and chisel. Where large scars are to be made, it is always best to defer pruning until Summer; though cutting with the knife may be done after the severity of the Winter has passed. Trees should be started with a view to an open and well balanced head, but where this has been neglected, they should be made as nearly right as possible before they get large. Wherever a branch will crowd another if allowed to grow, or will unduly fill up the centre of the tree, it should be removed. A timely use of the knife in early Spring, and an occasional summer pinching of a shoot disposed to grow where a limb is not needed, will keep the top open. It is sometimes necessary in order to give the tree a proper balance, to induce a branch to prolong itself more than it naturally would; this can be done by removing the side shoots upon it.

Soils for Potting.

Those who are novices in the cultivation of plants in pots, are often troubled when they see the directions to use some particular soil or compost, given in the works on gardening. Various formulas for these composts are given, and some of their ingredients are mentioned by names which are little known in this country. These minute directions are frequently sufficient to deter those who think they are essential to success, from cultivating many plants. The fact is, that most plants will grow in any good garden soil, by which we mean a light loam enriched with vegetable matter and well-decayed manure. Sods from an old pasture stacked up and allowed to decay, will decompose into a compost which will suit the great majority of plants, and may be easily varied to suit particular ones by the addition of sand for those requiring a poorer soil, and by the use of some top soil from the woods to suit those requiring more vegetable mould. The sods and surface soil of a rich pasture, with about one-fourth of well-decayed manure like that taken from an old hot-bed, mixed together and left in a heap for some months, with an occasional forking over, will give a compost which will answer for all ordinary plants. Run it through a coarse screen to remove sticks and large lumps, and preserve under cover for use.

ARE GRAPES DETERIORATING? — Hovey's Magazine avers that the grapes exhibited during the last few years are inferior to those of the same varieties produced fifteen or twenty years since. May not the well-known tendency to look back to the "good old times," have something to do with such a judgment? Will any one substantiate or disprove the statement by facts?

A Neglected Native Fruit—The Papaw.

(*Asimina triloba.*)

Those familiar with the vegetation of the West, are acquainted with the Papaw, which grows from Michigan southward, being especially abundant in Tennessee, and other southwestern States. It forms a shrub or small tree, from 10 to 20 feet high, and is so fond of rich soils, that an abundant growth of Papaw is considered to indicate great fertility in the land. The shape of the leaves is shown in the engraving; when full grown they are from 6 to 9 inches long, and as they attain a glossy surface when old, the tree is quite ornamental in its foliage. The flowers appear in May, along with the leaves; the engraving gives them of the natural size and represents the leaves of their size at the time of flowering. There are two rows of brownish, veined petals, which increase in size after the flower opens. The fruit, which ripens in September, grows single, or in clusters of two or three. It is three to five inches long, oval in shape, and filled with a pulp containing several seeds, which resemble those of a watermelon in form, though much larger. To save room, the fruit is shown in the engraving of about half the natural size. When the fruit is fully ripened, the pulp is of the consistence of custard, and to the writer's taste, delicious. It perhaps reminds one somewhat of the banana, though many prefer it to that fruit. When we see to what perfection other fruits have been brought through cultivation, this native fruit would seem to be worthy the attention of experimenters. There is no doubt that there is, as in the case of other wild fruits, a great difference among those growing naturally, and seeds from the best of these might be taken as a starting point from which to attempt to improve the Papaw by culture and selection. The tree belongs to the family *Anonaceæ*, which includes the Custard-apple, and the Cherimoya, two of the most esteemed fruits of the tropics.

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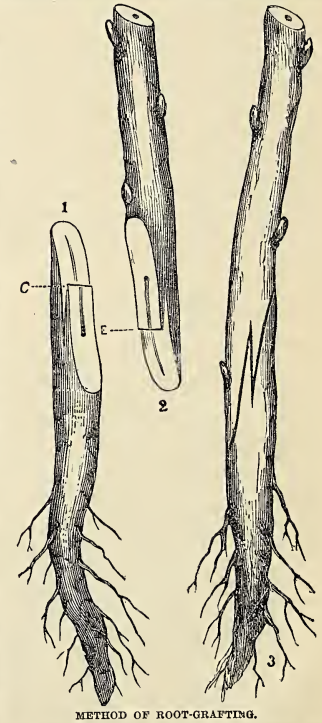
A Wonderful Plant.

Within a few years one of the most singular vegetable productions has been discovered in the Damara country in Africa. The plant, grows to be a century old, and its trunk attains a circumference of 14 feet, yet it never produces more than two leaves, and these, singularly enough, are the first or seed leaves of the plant. Imagine the two seed leaves of a squash to keep on growing and spreading over the soil until they reach a length of six feet each, and some idea can be formed of this vegetable wonder. These two leaves, which are "split into innumerable thongs that lie curling upon the surface of the soil," are all the foliage that the plant ever produces. The plant inhabits dry regions, where rain rarely or never falls, and has no need of a large surface of foliage. Flower-stems spring from the large trunk, and produce cones about the size of those of the spruce fir. The name of this strange plant is *Welwitschia mirabalis*, and it belongs to the family of *Gnetaceæ*, of which we have no representative found native in our climate; it is allied to the pine family, however.

Root-Grafting.

In answer to several requests, we give a few hints upon this method of propagating, remarking that what seems to be a difficult operation when described, is very simple in its execution. Root-grafting means—not grafting into the roots, but taking up trees by the roots, and grafting them in-doors, during cold weather, which is of especial value in many cases. The essential points to be observed are noted below, and a little practice will enable any man or boy who can whittle, to become expert. It is well to make a few preliminary trials upon worthless twigs; this will soon give one the proper knack at cutting, and all the rest is very easy. The stocks used for root-grafting are one-year-old seedlings; these, if they have made a good growth, will have a diameter of one-fourth to three-eighths of an inch. The stocks are taken up in Autumn and buried under a shed, or in a cool cellar, so that they will neither dry up nor be frozen. A sufficient quantity of cions are cut, carefully marked, and preserved in the same manner. The stocks and cions being on hand, the only additional materials required are a sharp knife and some waxed cloth. The best material for cloth is worn calico or muslin, no matter how thin and tender: this is torn into strips about three inches wide, and made up into rolls or balls as large as one's fist, or larger. In making up the rolls, it is necessary to keep the strips flat, without any folds. These rolls are to be put into melted grafting-wax and soaked until they are thoroughly penetrated by it; they are then laid out on a piece of board to drain and cool, when they are ready for use. Grafting-wax is made by melting together over a slow fire, 2 lbs. Resin, 1¼ lbs. Beeswax, and ¾ lbs. Tallow, or in this proportion. The stocks are prepared by washing them and cutting off the long tap-root. The graft is inserted at the "collar," or that portion of the stem where it joins the root. Make a cut sloping upward (like the mouthpiece of a whistle) from an inch to an inch and a half long; then in the centre of the slope, cut a tongue as shown at *C*, Fig. 1. A cion about the same size as the stock, and 3 or 4 inches long, is cut in the same manner, except that the slope is downward: this, *E*, Fig. 2, has also a tongue cut in it. The two are now fitted together as in Fig. 3, pressing them together so that the inner bark of the stock and cion will exactly join, at least on one side. The union being satisfactorily made, the two are to be bound together. A portion of the waxed cloth is unrolled from the ball, and a piece large enough to cover the junction and go two or three times around the stem, is torn off and applied, by wrapping it around closely so as to exclude air and moisture. The grafted stocks



METHOD OF ROOT-GRAFTING.

are placed in boxes, with sand or sandy soil among their roots, and kept in a cool cellar or other place, neither too dry nor too cold. Of course each separate variety should be properly labelled, and to avoid the chance of mistakes, it is well to work upon only one sort

at a time. In Spring, as soon as the soil is in good working condition, the grafted plants are set out in nursery rows. The usual method of planting is to open a trench and set them at about 18 inches apart, and cover so that the junction will be entirely below the surface. By making the cuts clean, with a sharp knife, joining so that the inner bark of stock and cion will be in contact, and binding carefully with waxed cloth, there is little danger of many failures. Root-grafting is largely practised in nurseries, though there are some who consider that trees produced in this way are never as vigorous and shapely as those obtained by budding, or by grafting stocks which have been long enough planted to become well established. One great advantage of root-grafting is, that it can be done in-doors, and at a season when ontside work cannot be prosecuted. Trees started in this way, will in favorable situations make as good a growth as from buds. The term root-grafting is sometimes applied to grafting on bits of roots, a method not to be recommended.

THE HOUSEHOLD.

Get a Home and Keep it.

A leading object with every young man should be to secure for himself a permanent home. And for its greater stability, it should consist partly in land, and up to a certain limit, the more of it the better, if paid for. The house should be as comfortable and attractive as one has the means of making it. It should be one that the heart can grow to, and will cling around more and more firmly with every passing year. Its owner should desire and purpose to keep possession of it as long as he lives, and his children should grow up feeling that there is one place fixed and stable for them, amid all changes.

Americans are altogether too roving in their habits. We build houses cheaply, and pull them down without regret. Or we sell out and move away a half-dozen times in a life time, in the vain hope of bettering our condition. How much better to choose a homestead early in life, and then lay plans with reference to abiding there. Even though our gains be less than are promised elsewhere, a certainty should seldom be given up for an uncertainty. "A bird in the hand is worth two in the bush."

Only those who have experienced it, know how firmly a family become attached to their long-loved homestead. No children love home so well as those who have known only one. As the young become of marriageable age, they should go out, one by one, from the old homestead, feeling it to be the model after which their own should be established, and knowing that this will remain unchanged as long as the parents live, a place to which they can return, and where they will be ever welcome. A pleasing writer confirms our doctrine thus: "There is a great gain in being settled down. It is two-fold. Each year accumulates about the farmer the material by which labor is lessened. The rough channels of labor become worn and smooth. A change involves a great loss, and rarely is there a corresponding gain. Time is lost, labor expended, money paid out, the wear and tear of removal is no small item; and above all, the breaking up of old associations is often disastrous in the extreme. Parents and children become unsettled in their habits, if not in their morals.....Let the man who has a homestead keep it; let him that has none, get one and labor to render it a treasured remembrance to the absent, and a constant joy to those who abide in it." To all which every intelligent, thoughtful person must give a hearty approval.

Improvement on the Lung Protector.—A correspondent in Charlton, N. Y., highly commends the use of the lung-protector described in the *American Agriculturist*, Vol. XXII, page 309, (October, '63.) He prefers the article to be of oiled silk on the outside, the inside of dress silk, with a thin padding of cotton between. A serious objection to this is, that it prevents the escape of the exhalations from the skin, while the chamois leather or sheep skin allows the prespiration to pass freely through and yet acts as a non-conductor of heat. One correspondent however suggests what may be an improvement: viz., that instead of four strings, only two he used—each one fastened to a top corner and to the opposite bottom corner, crossing at the back like suspenders. Arranged in this manner knots are avoided, and the protector can be slipped on and off over the head, without tying or untying.

Improved Cap for Coal-Oil Lamps.

Every one who has used a coal-oil or kerosene lamp (and few families in this country have not,) knows the inconvenience of removing the chimney and burner, in order to replenish the oil. Without much care there is danger of spilling the oil while holding the burner with one hand, of soiling the hands and the table if the wick he lifted from the lamp, and also of pouring in too much and causing an overflow of the not very sweet-scented compound. The device represented below is intended to remedy these difficulties. The attachment, *a*, consists of two brass collars joined by a hinge. The upper collar has a convex surface fitting snugly to a concavity in the lower one, and the joint is made still more close by a rim which closes over the bottom collar. A small spring projection holds the two together when closed. The apparatus is easily attached to any lamp by the screws, the upper one to receive the burner, the lower one to enter the collar on the lamp, as plainly illustrated in the larger figure of the above engraving. Nearly or quite all kerosene lamps in market have the screw threads of uniform size, so that the above attachment, which is made accordingly, can be placed on lamps now in use. The filling, as will he readily seen in the engraving, is done by simply opening the attachment and pouring in the oil, without removing the chimney. It is a neat and cheap contrivance, and well adapted for the purpose intended. Dealers or others interested will find further information concerning this invention in the appropriate place in our advertising columns.

ATTACHMENT FOR FILLING A LAMP.

A Good Dress Elevator.

We have no time to study the vagaries of fashion, and scarcely know when a new style of coat, hat, dress, or bonnet "comes out," unless it he something so *outre*, so unseemly, as to command attention hy its oddity or incongruity. We pity those who have no higher aims or ambition than to be up with the latest style of wearing a watch foh or a bonnet string. Being somewhat of a railroad traveller, daily, we have been compelled to note the inconvenient crinoline expansion, which has more than kept pace with the "currency," and we see with pleasure that the steel clad armor is contracting to something like convenient and tasteful proportions. This improvement is in danger of being counterbalanced hy the lengthening of dress skirts. This we are also obliged to take notice of, when hurrying along the street, and compelled by the trailing folds to keep at proper distance from a bevy of fashionable ladies half a dozen yards ahead. We therefore take the more pleasure in speaking of a new and convenient little apparatus hrought out hy Madame Demorest, which she calls an "Improved Dress Elevator." In brief, it is a helt worn *under* the dress, with cords and hooks so arranged that by drawing two cords, a lady can elevate or lower the folds of the dress as she walks along. The neat and tasteful appearance of the dress, when so raised, is shown in the above engraving. Each breadth of the dress is raised at the same time. It is easily applied, the same one answering for any nnmher of dresses, and being retailed at the low price of 50 cents, it is worthy of introduction.—If generally adopted, it will require an increase in City Inspector Boole's street sweeping force, as he will not have the ladies' aid thereafter.

Notes on Dress, for Winter of 1863-4.

Prepared specially for the American Agriculturist,
BY MME. DEMOREST.

The styles for this season are more striking and picturesque, than for several years past, and in many respects commendably sensible In place of wearing paper-soled shoes and thin cotton stockings, the most fashionable ladies now walk Broadway with boots heeled and toed like those of a soldier, and their limbs protected by Balmoral hose. The Balmoral skirts are yet in vogue, and these, with the use of the new "elevator" for the dress, provide a promenade costume for all weathers, which has already done away much of the pernicious repugnance to out-door exercise. To shorten the skirt for in-door wear should be a violation of artistic taste. We notice with pleasure that trim-

mings for the skirt are less profuse, and for many of the richest toilettes the skirts are entirely plain.

Scotch plaids in all textures, are a distinctive feature. The preference is given to blue and green combinations. The bright tartans are better adapted for misses' and childrens' wardrobes.

Bodices are made high, frequently trimmed in jacket form, but always terminating in "postillion," "sash," or "rounded basque" ends. The "*postillion*" is a short jacket-back, eight to ten inches deep, and narrow and straight at the sides: that is, about half the width of the side shape is made to form in with the centre of the back, and laid in flat or plain plaits, as preferred. The "*sash*" waist proper, has two graduated ends cut on with the body, usually eighteen inches deep; they are frequently cut of the same length in front.

"*Basque*" ends are usually wedge or leaf shape, terminating sometimes quite long in the center, and the sides graduated from that; others barely give an opportunity for trimming at the bottom of the waist. The spring, or skirt part in the above named styles, does not extend to the side seams.

Basques are being revived in improved styles. A becoming form for a plain basque is, to cut the skirt or spring six or eight inches in front, and ten inches in the back, and shape it in a rounded slope to the seam under the arm; or in other words, make no spring at the sides, but let it be carried straight down over the hips in the form mentioned, and finished at the edge with chenille fringe six to ten inches deep. The sleeve to correspond, should be what is termed wide coat shape, with a narrower fringe set on above the edge in a regular form, to indicate a cuff. The joining of the sleeve to the body is concealed by a row of fringe which is a becoming and favorite style.

Sleeves are made close at the hand, for traveling, and where simplicity and comfort are considered. Aside from these, they are open at the wrist and somewhat wider than they were, but not full. Where for variety they are full at the top, they are invariably sloped narrow at the hand, and left open at the back to display the undersleeve; but all, though variously cut, assimilate to the coat sleeve.

The most popular cloaks are made of beaver cloth and plush, which if not superbly elegant, are, yet better, warm and comfortable.

Bonnets have somewhat changed their shape, and very decidedly their style of trimming. The ornaments are now all massed on the top of the crown, and the front, instead of flaring up, is made somewhat lower and plain on the outside; the interior has the decoration placed a little on one side, the vacant space being filled up with half a dozen quillings of illusion. Jockey hats are more than ever in favor with young people. The Spanish style, in felt and beaver, trimmed with velvet and plumes, but without any ribbon, and fastened with elastic instead of strings, is the one principally worn.

Why So Much Poor Bread?

MR. EDITOR:—Can any reader of the *American Agriculturist* explain why it is that so large a number of good housewives have so much "bad luck" in making bread? I have traveled a good deal, and enjoyed eating at hundreds of tables. The result of my experience and observation is, that not half of the families of the country, rich and poor included, even know what *good* bread is: they have never eaten enough to know the genuine, light, well-baked article when they see it. Of the other families, half at least have quite as much poor bread as good—about three bakings out of five being defective from some cause—while only about one family in twenty have good bread always. Now why is it that those who are in all other respects excellent housekeepers, and never fail to have other work well done, yet fail here? Need bread-making be such an *uncertain* process? Is it necessary to have it too heavy to-day, too much raised to-morrow, over-baked on the next day, and under-baked on the following day? If one out of twenty housekeepers always manages to have a good, light, sweet, properly-baked article, could not the other nineteen do the same if they brought the same care and skill to bear? Bakers never think of failure: their bread is always expected to be light and good. If the learning of the trade makes the difference, would it not be worth while for every housekeeper to learn the trade? The process is not so varied, and does not require such a degree of acquired mechanical skill, as to make a long apprenticeship requisite. I repeat the question at the head of the letter: "Why so much poor bread?" and add another: Can nothing be done to remedy the difficulty? Let your fair correspondents put their heads and pens together. When they succeed, the writer of this will be less inclined to remain a "*crusty*" BACHELOR.

The Bread Question—Butter Costs More than Flour—Cheaper to Buy Bread than to Make It.

MR. EDITOR: As bread is literally, as well as figuratively, the "Staff of Life," I for one desire to see this subject occupy a larger space in the *American Agriculturist* for 1864. To start the question, I supply a little from my experience: My family consists of five persons. We keep a record of every expenditure, and here is the account of three items for the year ending Sept. 1, 1862:

Meats, (average $1.84 per week,).....	$95.68
Flour, 5 bbls. and 40 lbs.....	46 25
Butter, (5¾ lbs. per week, average 22½c.)	65.81—$207.74
Total for Flour and Butter	$112.06

My "better half" was in poor health, and her care much required by an infant, so that the baking was mainly done by the kitchen girl. Though otherwise a good girl, and well recommended from her last place as "a good bread-maker, etc.," the bread was not just right more than once in five times, if so often; hence butter in quantity, gravies, toasts, bread-puddings, etc., were continually required to use up the poor bread. On looking over the matter, we concluded to try *buying* bread. Here are the figures for the year ending Sept. 1, 1863:

Meats, (average $1.63 per week,).....	$84.76
Bread, (451 loaves at 10c., 324 loaves at 5c.)	61.30
Butter, (4½ lbs. per week, at 25c. average,)	56.81—$202.87
Total for Bread and Butter.....	$118.11

During the second year we enjoyed better health, and certainly enjoyed our meals more, as we always sat down to the table with good bread before us. Less meat was desired, and less butter required to give the bread "a relish." The saving in butter was only 14 ounces a week, but this made an aggregate saving in the year of $9, after reckoning the increased cost. I have allowed nothing for cost of fuel in baking, of time, milk, salt, etc. As in the home baking system, it costs more for butter than for flour, and from considerations of health and comfort, I believe it cheaper to buy baker's bread, when it is convenient at hand and at a reasonable price, than it is to bake at home—at least where good home-made bread cannot be uniformly produced. NOT A BAKER.

Soda versus Saleratus.

The other day we saw at a store a lady looking for "*Saleratus.*" She said "she never used cooking soda; it was not half so good as Saleratus." She obtained a neatly-done-up package, labeled, advertised, and recommended highly, as "pure Saleratus." We happen to know, by chemical analysis, that the so-called pure Saleratus was simply cooking soda (super-carbonate of soda) adulterated with salt to reduce the cost. Genuine Saleratus is a bi-carbonate of *potash*, which is obtained from wood ashes by leaching out the carbonate of potash, evaporating the water, purifying by burning, and *bi*-carbonating it with carbonic acid. Cooking soda is bi-carbonate of soda prepared from common salt by a chemical process, in which commercial chloro-hydric acid is produced at the same time, so that the original cost of the soda is but 3 or 4 cents per lb. As salt is abundant, and ashes are scarce, the soda will always be much cheaper than Saleratus.—The practical point is, that soda answers every purpose of saleratus. As an alkali to neutralize sourness in cakes, bread, etc., it is equally effective. As a source of carbonic acid gas to lighten up the cakes or bread, it is also just as good as saleratus. The resulting salts, left in the food by soda, are at least as simple and uninjurious as those of saleratus. It is a mere notion, or want of skill in use, that would lead any one to prefer the dearer and scarcer pure saleratus, to cooking soda.

The chemical reader will understand, also, why soda goes further than the potash saleratus. The equivalent of the potash saleratus ($KO,2CO_2$) is 39+8+44=91; that of cooking soda ($NaO,2CO_2$) is 21+8+44=73,—so there are as many neutralizing soda elements in 73 ounces of pure cooking soda, as in 91 ounces of potash saleratus. The same may be said of the gaseous carbonic acid. Therefore, while soda costs less, yet 5⅓ lbs. of it go as far in cooking, as 6½ lbs. of the saleratus. (In the ordinary method of manufacturing, the bi-carbonating is not very perfect, but considerable portions of simple carbonate remain. The commercial articles are therefore properly termed super-carbonate of soda, and super-carbonate of potash.)

"Ham and Eggs"—Get the Eggs First.

If there is any better breakfast than "ham and eggs" to brace a man up for heavy out-door work in these cold days, we don't know what it is,—*always provided*, that the ham was good originally, that it has not been salted, smoked, or cooked to death, and that the eggs are not done to a crisp, but are simply hardened in the fat so as not to run. Ham, if barely cooked enough not to taste raw, and then well masticated, or cut very fine if the teeth are too tender, is both digestible and nourishing. Lean meat furnishes lean meat—that is, the muscles of the body with which we *work*. The fatty portion supplies carbon to keep up the internal fire of the system most needed when it is cold without. The nitrogenous albumen and the oil of the eggs, answer the same purposes. So much for the housekeeper and cook. Now to get the eggs—and the housewife must look after this, too, if the "men folks" don't, or won't.

Hens will lay about as well in Winter as in Summer, if "circumstances" permit. To produce eggs well, fowls must be *comfortable*, and must have animal food. When the ground is open, and worms and insects abound, they get their own material. They must have gravel to keep their grist-mills in good working order, and lime to make the shells. Sometimes a hen drops a shell-less egg, but she is ashamed of the skinny, unprotected thing, and seldom does it twice. Sometimes she will drop an egg where its life is sure to be frozen out, but her instinct teaches her better, and she stops doing so, if possible. Here is the whole secret of having plenty of eggs all Winter,—we have tried it long, and so have others, with good success always; and as eggs will sell well this year, owing to the high price of meats, we advise attention to the matter:

1. Give the fowls *some* warm, thoroughly sheltered place of retreat, and keep it clean. Take out all the droppings at least once a week: they are excellent guano, worth half the cost of the food. (We have a nice, plastered, warm room in the sunny south-east corner of the second story of the barn, provided with roosts and laying-boxes having the entrances turned so as to be out of sight of the rest of the poultry. Hens are modest animals, always seeking hidden places for nests. A narrow enclosed stairs leading up from the barn-yard, is freely used.)

2. Let them have unfrozen water always accessible. Semi-fluid eggs cannot be made out of dry grain.

3. Hens are not gluttons. Let them have grain in abundance, and they will eat only what they need.

4. Provide a wide box of gravel, earth, sand ashes, and old plaster or finely-broken oyster shells, for them to roll in, and to pick out such materials as they require.

5. Give them two or three times a week, if not daily, a moderate supply of *fresh* meat, (never any salt.) Nothing comes amiss—bits of cartilage, in-

testines, any waste scraps. They will pick bones very clean. We depend upon a cake of scraps from the bone or glue boiler's. The hard scrap-cakes, of 50 to 100 lbs. each, which are sold at ¾ to 1¼ cents a pound, are just the thing. This material does not decay, and the hens amuse and feed themselves by picking off little bits from time to time. The waste vegetables, clippings from cabbages, potato skins, cold potatoes left over (if not cooked in salt water,) are relished by the poultry, and turned to account.

The above simple directions, if rightly followed, seldom if ever fail to secure a full and profitable supply of eggs all Winter. In the absence of any thing better, a straw enclosed shelter will answer for poultry. See description of straw work, page 9.

To Prepare and Keep Sausage Meat.

John H., of Cold Spring, L. I., sends the following directions to the *American Agriculturist:* "To season 10 pounds of sausage meat, use 4 oz. salt, scant 1 oz. pepper, with sage and thyme to suit the taste: it is improved by having about one-sixth of the meat lean beef. When the meat is prepared, take either hogs' or beeves' bladders, and blow them while fresh, but not too thin. Let them dry a few hours, cut off the neck, wash and soak about twelve hours in lukewarm salt and water, then scrape lightly with a dull knife, turn them on the wrong side, and fill with the meat. Leave room enough to draw the edges of the bladder together, take a large meat-skewer or sharpened wood-pin made of hickory or locust, strong enough to bear the weight of the filled bladder, and pin the edges back and forth across the top. Tie a stout cord below the stick, draw it together tightly, and tie the ends to form a loop; then hang in the garret. The bladders being air-tight, the meat will keep until warm weather, as sweet and fresh as when first put up. Should the bladders tear a little around the pins, fill the places with sweet lard, after they are hung up. Calves' and sheep's bladders are not strong enough to bear filling.

A Contributor in a "Stew."

Mr. Editor.—I don't live: I board. I have been looking over the household department of the *Agriculturist* in hopes that I might find something that I could put in my landlady's way to enlighten her on the subject of stews. Pieces of indifferent meat, such as when fried are uneatable, can be made into a most acceptable stew. When I kept house, a neck piece of mutton furnished us with a favorite meal—cheap, and good enough for any body. The meat in a stew should be thoroughly done until it is tender. If there is much fat, cook the meat the day beforehand with water only, let it cool, and remove the fat from the surface. The vegetables may be added and cooked just before the meal at which the stew is wanted. By managing in this way, a thoroughly cooked stew can be had for breakfast. For a breakfast dish I prefer meat and potatoes only—with a seasoning of salt and pepper. For dinner the vegetables may be varied; mutton with potatoes and onions, makes the celebrated Irish stew; with carrots, a delicious dish; with tomatoes, it is superb, and with green peas and tender bits of asparagus, it is fit to set before a king. Beef instead of mutton, will give another series of dishes. Do stir up your readers on the subject of stews, and oblige
Stew-art.

Dry-Salting Beef.—J. C. Fenn, Litchfield Co., Ct., in a note to the *American Agriculturist* says: Beef will keep well, if packed in a mixture of 4 qts. salt, 4 lbs. sugar, and ¼ lb. saltpetre, to every 100 lbs. meat. He advises to use no water to make brine, as, he says, if properly packed the meat will furnish fluid enough for the purpose. Without having tried this, it would seem that such an abstraction of the juices of the beef would be likely to make it hard and tasteless.

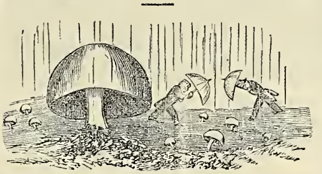
Cheap Crust for Pumpkin Pies.—Contributed to the *American Agriculturist* by Mrs. David Brush, Queens Co., N. Y.: Grease the platters *thoroughly*, and cover with Indian meal. Fill carefully with the prepared pumpkin, so that the stream in pouring will not wash the meal from the middle of the platter. The pie should be baked brown on the bottom. This will be found very convenient for a washing day, and economical in these times when butter and lard are so high-priced.

Farmers' Pudding.—Contributed to the *American Agriculturist* by "Aunt Phebe," Perry, Ill. Heat one quart of milk to boiling, then stir in slowly one teacupful of Indian meal. Mix with this about six good apples pared and sliced, and add two tablespoonfuls of sugar, one of butter, and a little allspice and nutmeg. Pour the whole into a deep dish and bake until done or about 40 minutes.

BOYS & GIRLS' COLUMNS.

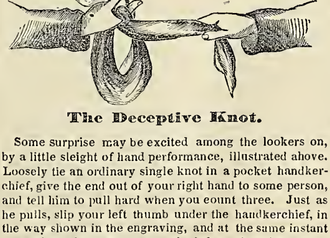
"A Happy New Year"

To all our young Friends! That the year upon which we now enter, may, indeed, be a happy one to *each* of the hundreds of thousands of little ones, and the Children and Youth who read these pages, is our earnest wish. We shall do our best to add something to your pleasure, and hope to not only amuse you by pleasant stories, pictures, games, etc., but also to weave in many hints, and suggestions, that will improve your minds and hearts. But remember that the *seat* of happiness lies deep in your own heart. If this be wrong, pleasant things on the outside will only cover up a festering sore that will ever give pain and discomfort. Start right, then at the very beginning of the year—on its first morning, and get the *heart* right. What of strength you lack, the Omnipotent, the all powerful One will supply, if you earnestly *ask* for His aid. But He only helps where *our* power ends. We must first put forth all our own efforts. His command was, not to pray merely, but to "*watch* and pray." So we must watch, strive, make all the effort we can. We commend to the kind care of the Great Shepherd, the tender lambs of our flock. May He temper the storms and blasts to their strength, and kindly bear them in His bosom.



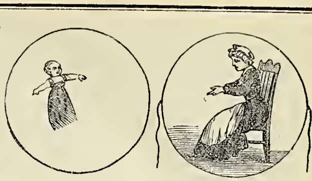
The Mushrooms and the Umbrella.

In the November *Agriculturist*, page 344, the anecdote of Alexander Dumas and the Mushrooms was related, wherein the author tried to ask for mushrooms by drawing a picture of them, and the Swiss servant brought him an umbrella. We suggested to our young readers to try their skill at sketching a mushroom and umbrella. One of them sent so neat a drawing, that we have had it engraved. The author did not give his name; he need not be ashamed to own the picture—there would be little danger of confounding the two articles in such a sketch.



The Deceptive Knot.

Some surprise may be excited among the lookers on, by a little sleight of hand performance, illustrated above. Loosely tie an ordinary single knot in a pocket handkerchief, give the end out of your right hand to some person, and tell him to pull hard when you count three. Just as he pulls, slip your left thumb under the handkerchief, in the way shown in the engraving, and at the same instant let go the end that hangs over the left hand, and grasp the handkerchief with the thumb and finger. It will be drawn out quite straight through the hand without any knot.



An Amusing Toy.

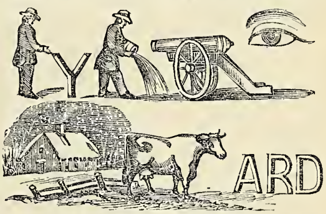
Copy the images in the above engraving, each one upon a circular piece of paper the size of a copper cent. Then paste them upon opposite sides of a round bit of thick card-board or paste-board. Arrange them so that when the head of the woman is upward, that of the child will be downward, and let them be both in line. After the paste is dry, fasten a string to each side of the card, as is shown in the engraving. Now if you make the card revolve by twirling the strings between the fingers and thumbs, the lady will appear to be holding the child in her arms. The effect will be better if pictures of a larger size than these are made. Those skilled in drawing can contrive other similar toys, as, for instance, a boy on one side and a horse on the other; or a dog and a rabbit; or whatever else may suit the fancy. This little instrument well illustrates a fact in natural philosophy. How many of the *Agriculturist* school girls and boys can state what that fact is?

About Gold Leaf.

A solid or cubic inch of pure gold weighs 4,882.39904 grains. At $20 and 260-387, per ounce, (Troy weight,) which is the exact value of *pure* gold, the cubic inch would be worth——how much? Gold when hammered out into leaf, such as is used for gilding the backs of books, etc., may be beaten so thin that 300,000 leaves will only make one inch in thickness. One cubic inch of gold may therefore be made into leaf to cover 300,000 square inches, or 2083 square feet, or over 7½ square rods. This would be enough to gild the entire floor, ceiling, and walls of a room 20 feet square and 16 feet high.

New Puzzles to be Answered.

Nos. 62, 63, 64. *Mathematical Problems.*—An item on page 10 gives the assessed value of property in New-York State as $1,454,454,819. *Question* 62: If this money were all in a solid gold ball, what would be its diameter?—*Question* 63: If all in silver, what would be the diameter of the ball.—*Question* 64: If all in one dollar bills, 3 by 7 inches, how many acres would they cover? Note: 271 and 41-129th gold dollars or 16 and 32-33ds silver dollars weigh a pound Avoirdupois. Silver is 16½ times and gold 19⅓ times heavier than water. A gallon, or 8 pounds (avoirdupois) of water, contains 231 cubic inches. The above three questions will give a good exercise to our young readers who are studying arithmetic this Winter.



No. 65. *Illustrated Rebus.*—Worth reading by soldiers.

Answers to Problems and Puzzles.

The following are solutions of the puzzles, etc., in December No., p. 375.—No. 59.—*Puzzling Sentence.* In 1792 France was divided, monarchy obliterated, laws overturned, religion set aside, and rebellion sprang up in every corner. No. 60.—The *Wheel Puzzle.* We give the answer in the words of S. N. Dexter North, of Oneida Co., N. Y. "The hub, although it rolls an equal distance with the felloe, does not revolve through an equal *space.* —No. 61. *Illustrated Rebus.* Two in S team B on nest man ly re ve rent and love in g; or, "To win esteem, be honest, manly, reverent and loving." The following have sent in correct answers up to Dec. 12th. The numbers indicate the problems, etc., answered by each. S. N. Dexter North, 59, 60, 61; Isabella Curtis, 57, 58; "C. A. R.," 55; Wm. G. Kieffer, 55, 57, 58; Phineas B. Davis, 58; Walter A. Carpenter, 57; F. M. Smith, 55, 57; J. Coyte, Jr., 57; Lucy and Lewis, 55, 56, 57, 58; "H. H." 55. Wirt C. Williams, 61; George H. Elliot, 59, 60; Thomas H. Edwards, 61; Waller Briggs, 61; Wilson Thomas, 61

THE CHRISTMAS PIE.—*Engraved for the American Agriculturist.*

A Rich Treat—A Generous Boy.

What a splendid feast! A whole Christmas pie, filled with plums such as Johnny Horner picked out when he said "What a brave boy am I." "Its *all* for me," the boy is saying, not in words perhaps, but his satisfied smile, his arms thrown around the dish, and his body leaning fondly toward it, all speak more plainly than words. The sprig of holly lying near, upon the table, shows that it is holiday times, and some kind friend has made the boy a Christmas present. "I'd like to be in his place," more than one little fellow is saying, as he thinks of the good pies his mother makes. Wait a little, while we tell you of another boy that lived in Boston; perhaps you would rather be like him than to have even a whole Christmas pie. He was employed by a rich merchant who had his dinner brought to the store every day, and frequently having more than he needed, he gave the boy a cake or a piece of pie, or some other dainty. One day the gentleman noticed that the boy slyly put away the cake he had received, into his basket, instead of eating it. When asked why he did so, the boy blushed and did not like to tell, but finally replied, "We are very poor sir, and my mother and sister seldom have any thing nice to eat, and I would rather give it to them than have it myself, if you have no objections." "And do you often do this?" asked the gentleman. "I always do," was the reply. His employer was so greatly pleased with this noble conduct, that he at once increased the boy's wages, and as he continued faithful, advanced him step by step, until he became a member of the firm, and a wealthy citizen. Was not that better than having the cake all to himself? Even if the gentleman had not discovered it, the boy's noble unselfishness would have given him higher pleasure than all the pies and cakes in a baker's shop.

The boy in the picture looks like a pleasant fellow, who would willingly lend his sleigh or his skates, share his marbles, or ordinary pleasures with a play-fellow; but the pie is something extraordinary—he couldn't think of giving away any of that. A writer says: "It is easy to give what you don't *feel*, but true unselfishness is to give what will *make* you feel:" that is, to deny yourself for the sake of another. The Boston boy did this; how many *Agriculturist* boys and girls will practise the same virtue this New Year, and thus make it a doubly happy one?

The Beggar Boy and the Flowers.

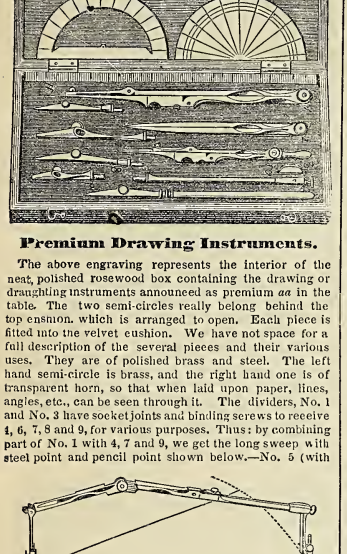
The following story, the origin of which we cannot trace, beautifully illustrates the power of kindness. "Go away from there, you old beggar boy! You've no right to be looking at our flowers," shouted a little fellow from the garden where he was standing. The poor boy, who was pale, dirty, and ragged, was leaning against the fence, admiring the splendid show of roses and tulips within. His face reddened with anger at the rude language, and he was about to answer defiantly, when a little girl sprang out from an arbor near, and looking at both, said to her brother: "How could you speak so, Herbert! I'm sure his looking at the flowers don't hurt us." And then, to soothe the wounded feelings of the stranger, she added: "Little boy, I'll pick you some flowers if you'll wait a moment," and she immediately gathered a pretty bouquet and handed it through the fence. His face brightened with surprise and pleasure, and he earnestly thanked her. Twelve years after this occurrence, the girl had grown to a woman. One bright afternoon she was walking with her husband in the garden, when she observed a young man in workman's dress, leaning over the fence, and looking attentively at her and at the flowers. Turning to her husband she said, "It does me good to see people admiring the garden; I'll give that young man some of the flowers;" and approaching him she said: "Are you fond of flowers, sir? it will give me great pleasure to gather you some." The young workman looked a moment into her fair face, and then said in a voice tremulous with feeling: "Twelve years ago I stood here, a ragged little beggar boy, and you showed me the same kindness. The bright flowers and your pleasant words made a new boy of me; ay, and they made a man of me too. Your face, Madam, has been a light to me in many dark hours of life, and now, thank God, though that boy is still a humble, hard-working man, he is an honest and a grateful one." Tears stood in the eyes of the lady as, turning to her husband, she said, "God put it into my young heart to do that little kindness, and see how great a reward it has brought."

Pleasant Work for the Young—Obtaining New Fruits.

Not many years since a lady in the City of Hudson, N. Y., procured some soil from the street in front of her dwelling, to enrich a flower plot. A little plant sprung up from it, which proved to be a grape vine, grown from a seed accidentally dropped there, perhaps by some child, eating grapes near the spot. The vine was permitted to grow and bear fruit, which proved to be different from any variety known, and of very excellent flavor. A nurseryman in the vicinity tasted the grapes, and liked them so well that he offered to take the vine and raise others from it to sell, and to divide the profits with the lady. This was done, and in a few years she realized enough from her share to purchase a handsome farm. The name of the grape is the Rebecca; many of you may be well acquainted with it. Now what is to prevent every boy and girl who reads the *Agriculturist* from planting grape seeds, raising the vines, and perhaps getting new kinds of grapes? As you may know, the produce of the seeds of most fruits is seldom like that of the parent. The seed from a red, tart apple, like the Spitzenberg, may yield a white, sweet variety. The pit from a good peach may give a larger, earlier kind; and so with the seeds of many other fruits. If our young readers will take pains to plant the seeds from the apples, pears, grapes, etc., which they may eat this year, some new varieties may be produced, superior to any now known. It would be strange indeed if some excellent sorts were not obtained among the hundred of thousands of members of our circle; and what a life-long pleasure it would give to a boy or girl to have thus been instrumental in adding to the enjoyments of the world. It would be unwise to feel at all certain of making even a small fortune from experiments of this kind, as perhaps not one in a thousand seeds would produce superior fruit, although there might be success upon the very first trial. He who does all he can to benefit the world, even though he fail, *is worthy of just as much praise* as he who does no more, but chances to succeed. Perhaps next month we may be able to give some hints that will make it less difficult to obtain the desired result.

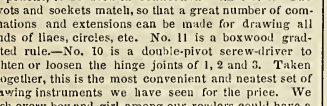
Useful Play—The Game of Proverbs.

The following is one of that innocent kind of amusements, which, if rightly used, not only afford recreation, but tend to develop the intellectual faculties as well. To make this game interesting, there should be half a dozen or more persons to take part—the more, the better. One of the company is sent from the room, and while he is out, some familiar proverb is selected, as, for example, "It never rains but it pours." Then a word of the proverb is given to each one of the party, in the order in which they sit; thus, the first must remember the word, *it*; the second the word, *never*; the third, *rains*, and so on until the whole of the words are distributed. When this is arranged, the absent person is called in, and beginning with the first player, he puts one question (any question he may choose) to each of the company in turn, and each player in his answer must introduce his word of the proverb. Thus, for example, he asks the first, "Is the proverb a common one." The answer might be "*It* is often heard." To the second player, "Will you help guess it?" "*Never* if I can help it," would be an appropriate reply. To the third, "What are you thinking about?" *Answer.*—"I was hoping it might not *rain* to-morrow"—and so on, through the whole party. The questioner is required to find out the proverb, from the answers which are thus given. If he can not discover it after going around twice, he must leave the room again, and another proverb is selected for him to guess at. When he is successful, he sends out the person whose uningenious answer enabled him to detect the proverb.—If there are more players than words in the proverb, then the sentence is distributed twice; thus supposing there were ten persons and seven words, the eighth person would have the first word of the proverb, the ninth would have the second, the tenth the third, and then the first player would at his second examination have to give the fourth word, and so on until the whole was finished. Or if there are ten words and only seven players, then the first player at his second examination must give the eighth word, and so on. In either case the questioner is to have the privilege of asking for information until all the words have been given to him twice, before giving it up.



Premium Drawing Instruments.

The above engraving represents the interior of the neat, polished rosewood box containing the drawing or draughting instruments announced as premium *aa* in the table. The two semi-circles really belong behind the top ensmon. which is arranged to open. Each piece is fitted into the velvet cushion. We have not space for a full description of the several pieces and their various uses. They are of polished brass and steel. The left hand semi-circle is brass, and the right hand one is of transparent horn, so that when laid upon paper, lines, angles, etc., can be seen through it. The dividers, No. 1 and No. 3 have socket joints and binding screws to receive 4, 6, 7, 8 and 9, for various purposes. Thus: by combining part of No. 1 with 4, 7 and 9, we get the long sweep with steel point and pencil point shown below.—No. 5 (with



vory handle) and 6 and 8 can be used with ink, either alone, or combined with 1 or 3.—No. 7 and 9 have sockets for pencils, to be used in connection with 1 or 3. The pivots and sockets match, so that a great number of combinations and extensions can be made for drawing all kinds of lines, circles, etc. No. 11 is a boxwood graduated rule.—No. 10 is a double-pivot screw-driver to tighten or loosen the hinge joints of 1, 2 and 3. Taken altogether, this is the most convenient and neatest set of drawing instruments we have seen for the price. We wish every boy and girl among our readers could have a set, not merely to amuse themselves with, but to cultivate a taste and habit for plotting and planning. We propose to all who may secure a set as a premium, to send us a plan of their several homes, farms, gardens, and houses, drawing them to a regular scale of a given number of feet or rods to the inch. We have a few sets yet on hand for premiums, and 100 more sets will arrive from Paris during January. If still more are wanted, they will be ordered. For terms, see premium table in the next column.

PREMIUMS for 1864.

(Last Publication in Full.)

There are certain easy-go-long Editors, who don't want to be troubled with giving premiums—and their editorial work is on a par with their business. They want their subscribers to do the writing, and they publish anything and everything, without the laborious care and investigation required to issue a well edited, reliable paper. They hitch on to their publications the name of some State, and then press upon the people of that State the duty of "sustaining their own paper." For the time expended in canvassing for them, they offer the pay of "a consciousness of working for the good of the cause." Jealous of the fact that a majority of reading farmers of their own neighborhoods even, have the discernment to go where they can get the best paper for the least money, they fall to picking flaws in the way their more enterprising cotemporaries do business.

Why can not these cotemporaries be easy, and go on in their own way, if they like that best, and not be trying to put themselves highest by pulling others down below them. We take our own way of doing business, and the people seem to like it; so we shall keep on—keep asking people to work not only for the "good of the cause," but also offering prizes to those who take time and trouble required to raise large clubs. As we have before stated, the simplest, easiest and best way to do so, is to offer specific Premiums of good articles for a definite number of names. Owing to the special goodwill of manufacturers, publishers, etc., and to some advertising arrangements we are able to offer *much larger* premiums in this way than in cash. There is no "catch" in our mode—no fine premium to the one sending in the largest list of names, leaving all others "out in the cold," though they may have worked just as hard, and obtained *almost* as many subscribers. The canvasser knows just what he or she is working for, and that the remuneration does not depend upon what some other unknown party may be doing.

In proof of the real value of these articles, and of the satisfaction they give, we will state the fact, that many hundreds of persons secured one or more of them last year, through our premium offers, and they were so well pleased with them that at least *nine-tenths of the same persons* are now at work to get other articles this year, and large numbers have already attained the coveted prizes.

We do not pretend to give an article costing $2, and throw in the paper for a year, all for $1. We offer no article of inferior quality or value. The premiums are all useful and desirable, and cheap at the prices named. We repeat that *Every article offered is just what it purports to be, and nothing is second-hand, or of poor make or quality, or kind; We intend in all cases to deal fairly with every one.* We invite all to make an effort to get one or more of the premiums described below, and thus do good to others in circulating the paper, and get paid for the work; *hundreds* have already done so during the past month.

Take Notice! *We can not afford space to republish the following descriptions in full, after this first number of the volume. Please read carefully through what is said below, and preserve the descriptions for future reference.*

Table of Premiums for 1864.

Open to all—No Competition.

Names of Premium Articles.	Price of Premiums.	Names at $1 each.	Names at 50 cts. each.
Good Books—*See terms below* *			
A—American Cyclopedia (Appleton's New).	$36 00	120	250
B—Best Family Clothes Wringer	$7 00	19	45
C—Nonpareil Washing Machine	$16 00	40	90
D—Sewing Machine, (Wheeler & Wilson)	$45 00	98	195
E—Sewing Machine, (Wilcox & Gibbs)	$40 00	82	185
F—Woodruff's Mercurial Barometer	$8 00	20	63
G—Woodruff's Mercurial Barometer	$12 00	30	91
H—The Aquarius	$10 00	25	67
I—Five Octave Melodeon (best)	$90 00	190	350
J—Four Octave Melodeon (best)	$80 00	130	250
K—Seven buck Volumes Agriculturist,	$3 68	23	64
L—Six do do do	$7 44	25	58
M—Five do do do	$6 30	22	49
N—Four do do do	$5 16	15	42
O—Three do do do	$3 72	10	28
P—Two do do do	$2 48	13	24
Q—One do do do	$1 24	..	13
R—Jacob's Portfolio Paper Files	$1 50	..	17
S—Osborn & Hodgkinson's Palmes	$1 50	..	17
T—Premium Cylinder Plow	$10 00	33	78
U—Eagle Plow No. 20	$9 25	30	69
V—Hay and Straw Cutter (best)	$9 00	28	65
W—Steel-tooth Cultivator (best)	$7 50	25	58
X—Family Lard and Wine Press	$7 00	24	54
aa—Case of Drawing Instruments	$5 00	21	44

No charge is made for packing or boxing any of the articles in this Premium List. The books and the Premiums K, to S, inclusive, are DELIVERED *to any part of the United States and Territories, free of all charges. The other articles cost the recipient only the freight after leaving the manufactory of each.* ☞ *Every article is new and of the very best manufacture.*

The names (with money for each,) can be sent in as fast as gathered, so that the subscribers can begin to receive their papers. The premium will be paid to any one as soon as his list is completed. **But**, *let it be distinctly noted, we can reckon for premiums* ONLY *those names which are marked as for Premiums, when they are sent in.* All the separate names thus sent and marked as for premiums, are at once recorded, so that we can immediately turn to any canvasser's list, and see how it stands.

Premium clubs need not necessarily be all at one Post-Office. Each list ought to contain a fair proportion of new names, for it is to bring the paper before new subscribers, that the premiums are in part intended.

To avoid confusion, please send in the exact amount with each list of names. In special cases the whole sum for a premium list may be forwarded, and the premium be received at once—the names to be sent in afterward.

☞ All names sent in now, get the great Strawberry plants. Note that 5 cents extra are needed if the "*Agriculturist Strawberry*" plants are to go by mail. This will, of course, be paid by the subscribers themselves.

Descriptive Notes on the Premiums.

*** Books.**—Any person sending 20 or more subscribers, may select from our Book List (page 27) to the amount of 10 cents for each name sent in at the club price of 80 cents, or to the amount of 30 cents for each name at $1. (No books sent for less than 20 names). The premium books will be *delivered*, by mail or express anywhere in the United States, or to the Border of the British Provinces, *free of all cost.* Many a Farmers' Club has, by means of this premium, obtained a good Library.

A—Appleton's New American Cyclopedia.—This magnificent work is now completed, and ready for immediate delivery. It consists of 16 heavy volumes, averaging 800 large two column pages, or in the whole work, 12,804 pages! (The books fill up over a yard of shelf-room.) *It is in reality a complete library of itself*, embracing full information upon every topic of human knowledge, alphabetically arranged for convenient reference. The subjects discussed number over *twenty-five thousand!* It is hardly possible to name anything upon which pretty full information may not be readily found in the Cyclopedia. Many who can not purchase the work may be able to obtain it through our Premium offer. It is worth a year's effort in raising subscribers, though many may get 130 names in a brief time.

B—Best Clothes-Wringer.—This is a most excellent Household Implement, which should be in every family. It can be set upon any form of tub, and by turning with the right hand and picking up the garments with the left, they are pressed rapidly and easily between two elastic rollers, and drop out into a basket, quite as free from water as they can be wrung by the hardest twisting by hand. Every lady knows that hand wringing is really harder upon the arms and shoulders than even the washing; while the twisting stretches the fibers with lever power, and hastens the wearing out. All this is avoided by the Wringer, which is in truth a *strength-saver*, and a *clothes-saver*. We have had one in use for nearly four years; it is as good as ever, and has paid for itself many times over. A child can with this readily wring out a tub-full of clothes. Our Premium Wringers are the family size, of the No. 2 "Universal" and are provided with *cogs*, and with springs, so that they will wring equally well any article from a blanket to a baby's stocking. The cogs are an indispensable addition to the best and safest wringers. The Wringer weighs only 15 lbs., and can be carried by hand, or sent by express, or freight to any point, and is ready for instant use on removing the light packing box.

C—Nonpareil Washing Machine.—The best recommendation we can give of this, is, that while we have tried fifteen or twenty kinds, this is the only one that our "help" continue to use without being *required* to do so. It acts somewhat like the old "fulling mill;" the clothes are put into the hot water, and beat by two pounders which constantly turn them over. The beaters are moved alternately by a crank, provided with balance wheel which adjusts the force required so as to make the turning easy. Take it all in all, the Nonpareil is the best Washing Machine we have found. If we find and prove a better one, we shall put it in our list, for anything that helps to reduce the hard work of washing day, is a godsend. The machine can go as freight, or by express, to any part of the country.

D—E—Sewing Machines.—We need not enlarge upon the benefits of Sewing Machines. It is no exaggeration to say that a woman can in a day do *ten times* as much ordinary sewing with a machine, as she can do by hand. The interest on a $50 Machine is only $3 to $4 a year, which is a small consideration compared to its advantages. Five hundred families ought to be supplied through our premium list *this year*. At least 80 to 100 copies of the *Agriculturist* ought to be taken in every town, and would be if some enterprising man or woman would go round and gather them. Two or three ladies might join their efforts, and get a machine for use between them. We offer two kinds of Machines, both varieties of which we have had in use for several years, and with great satisfaction. They are both supplied with the Hemmer, and are sent out with full instructions for use.—The **Wheeler & Wilson Machine**, we have used during five years, and can bear full testimony in its favor. More of these machines are sold and used, we believe, than of all the other good kinds together, which is a strong proof of the satisfaction they give.—This sews with a double thread, both sides of the fabric showing the same stitch.—The **Wilcox & Gibbs Machine**, we have used for over three years, and for most kinds of sewing it is excellent. It is very simple in its operation and can be worked by those who have the smallest amount of mechanical skill. It can be used for most kinds of sewing, and may well be adopted generally, at least where the higher priced machines can not be afforded.—For every kind of sewing, especially where the same stitch is required on both sides, we prefer the Wheeler & Wilson.

F—G—Woodruff's Mercurial Barometer.—This is conceded to be the best and cheapest instrument for general use, which is now offered to the public. The peculiar form of mercury cup invented by Mr. Woodruff, renders the instrument far more portable than any thing previously made. The *safe delivery* of every instrument given by us as a premium, is warranted by the manufacturer (Charles Wilder, Peterboro, N. H.), when to be sent within 1,500 miles. The instruments are beautifully made, are about 3 feet long, and are sent direct from the factory, with no expense save the express charges. We offer two forms which differ mainly in the style of case, both being supplied with *Thermometer* and *Vernier*. The $12 form is of course more ornamental, and the more desirable instrument, though either of them is highly valuable. A barometer is to farmers or others on land, what it is to sailors at sea—an indicator of the weather to be looked for. There are many times every year when the indications of the barometer in regard to the weather will often be of more value than its whole price, while the interest on its cost would be less than half a dollar a year. The habit of observation, and of scientific study cultivated in children where a Barometer is used, is important.

H—The Aquarius.—This is an excellent little portable force-pump, useful in many ways. One can take this instrument in his hand with a pail of water, and throw a considerable stream to any point where a fire may be breaking out, and do more to quench it, than he could with a dozen pailfulls dashed on, even if the fire could be reached. We have thrown water from the ground up against the third story windows of a house. The aquarius is very useful for watering gardens, for washing windows, carriages, etc., etc. It is provided with rubber suction pipe, to draw water from a pail, tub or bu cket, and an ejection pipe having both a nozzle for throwing a stream, and a rose or sprinkler. It has also an air chamber for giving a constant stream. It is a handy instrument, for every household, aside from its use as a fire engine with which many incipient fires have been stopped.

I—J—Melodeons.—None need to be told of the pleasure given by a good Melodeon in a household, or of its utility in the Week Day and Sabbath School Room, and the

Church. "Music hath charms to soothe even a savage breast," and we hesitate not to say that a benign influence is exerted upon every house and school room where a Melodeon or other good musical instrument is found.—We offer two sizes in our list above, and those of a different price may be selected for a proportionate number of subscribers. (For sizes, style, prices, etc., send a stamp to George A. Prince & Co., Buffalo, N. Y., and get one of their Illustrated descriptive Catalogues, which will be sent free). We have used one of these Melodeons during four years past, and it continues to give the highest satisfaction. It has not been tuned or otherwise repaired in all that time. The premium instruments will be shipped direct from the manufacturers at Buffalo, ready boxed. They can go by railroad, steamboat, express or otherwise, as desired by the recipient. ☞ It is easy for Churches, and both Week Day and Sunday Schools to unite their efforts and secure a good melodeon.—Many have done so already. Note the *present* prices.

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The Markets.

AMERICAN AGRICULTURIST OFFICE.
New-York, Friday Morning, Dec. 18.

1. TRANSACTIONS AT THE NEW-YORK MARKETS.

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
24 days *this* m'th	573,000	3,159,000	260,000	88,000	565,000	2,741,000
27 days *last* m'th	530,000	3,034,000	531,000	21,000	607,000	2,102,000

SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*
24 days *this* month,	373,000	2,772,000	2,146,000	33,500	350,000
27 days *last* month,	490,000	3,113,000	3,013,000	26,000	588,000

2. *Comparison with same time last year.*

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye*	*Barley.*	*Oats.*
24 days 1863..	573,000	3,159,000	260,000	88,000	565,000	2,741,000
24 days 1862....	667,000	3,954,000	2,787,000	6,850	298,000	869,000

SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*
24 days 1863......	373,000	2,772,000	2,146,000	33,500	350,000
24 days 1862......	418,000	3,605,000	3,216,000	53,250	312,000

3. *Exports from New-York, Jan. 1, to Dec. 17.*

	Flour. Bbls.	*Wheat. Bush.*	*Corn. Bush.*	*Rye. Bush.*	*Oats. Bush.*
1863.....	2,434,736	14,867,056	7,526,149	416 369	125,806
1862......	2,989,619	24,890,341	11,531,819	1,099,656	172,922

4. *Receipts of Breadstuffs at Albany, by the New-York Canals from the opening of navigation May 1, to Dec. 12.*

	Flour, bbls.	Wheat, bus.	Corn bus.	Rye, bus.	Barley, bus.	Oats, bus.
1863......	1,546,600	22,069,400	20,560,100	423,300	3,181,330	12,354,800
1862......	1,710,800	32,548,000	23,410,009	755,200	2,200,000	6,014,500

CURRENT WHOLESALE PRICES.

	November 18.	December 18.
FLOUR—Super to Extra State	$5 60 @ 6 65	$6 10 @$6 90
Super. to Extra Southern	7 20 @11 00	7 60 @11 00
Extra Western................	7 00 @11 50	7 00 @11 50
Extra Genesee................	6 70 @ 9 00	6 90 @ 9 25
Superfine Western............	5 60 @ 5 80	6 10 @ 6 30
RYE FLOUR....................	5 75 @ 6 75	5 75 @ 7 00
CORN MEAL....................	5 50 @ 6 25	5 70 @ 6 15
WHEAT—All kinds of White..	1 60 @ 1 85	1 65 @ 1 85
All kinds of Red.............	1 36 @ 1 57	1 43 @ 1 63
CORN—Yellow.................	1 09 @ 1 10	1 32½@
Mixed........................	1 09 @ 1 10	1 32 @ 1 33
OATS—Western................	85 @ 86	91 @ 92
State........................	85 @ 86	90 @ 90½
RYE..........................	1 20 @ 1 25	1 25 @ 1 34
BARLEY.......................	1 40 @ 1 58	1 35 @ 1 55
COTTON—Middlings, per lb....	86 @ 87	82 @ —
HOPS, crop of 1863, per lb.....	20 @ 28	20 @ 30
FEATHERS, Live Geese. p. lb..	57 @ 60	62½@ 65
SEED—Clover, per lb..........	9½@ 11½	11 @ 11½
Timothy, per bushel..........	2 50 @ 2 65	2 50 @ 2 85
FLAX, per bushel.............	2 90 @ 3 10	3 15 @ 3 25
SUGAR—Brown, per lb.........	11¾@ 14¾	11½@ 14½
MOLASSES, New-Orleans, p.gl..	50 @ 70	55 @ 70
COFFEE, Rio, per lb..........	30½@ 33½	33 @ 35
TOBACCO—Kentucky,&c,p.lb..	9 @ 28	10 @ 30
Seed Leaf, per lb............	12 @ 50	15 @ 55
WOOL—Domestic fleece, p. lb..	70 @ 85	70 @ 85
Domestic, pulled per lb......	68 @ 80	65 @ 80
Wool, California, unwashed..	30 @ 60	25 @ 57½
TALLOW, per lb...............	12 @ 12⅜	11⅞@ 12⅜
OIL CAKE, per tun............	46 00 @52 00	47 00 @52 50
PORK—Mess, per bbl..........	16 50 @18 25	13 25 @18 50
Prime, per bbl...............	11 87½@12 25	12 50 @13 00
BEEF—Plain mess.............	11 75 @13 50	12 00 @13 75
LARD, in bbls., per lb	11⅝@ 12⅛	11⅜@ 12¼
BUTTER—Western, per lb.....	19 @ 24	20 @ 26
State, per lb................	24 @ 28	26 @ 32
CHEESE.......................	11 @ 15½	12 @ 16
BEANS—per bushel............	2 00 @ 3 00	2 50 @ 3 00
Broom Corn—per lb...........	8 @ 10	8 @ 10
EGGS—Fresh, per dozen.......	22 @ 27	22 @ 27
Eggs, Limed, per doz.........	20 @ 21	20 @ 21
POULTRY—Fowls, per lb......	10 @ 14	8 @ 11
Ducks, per lb................	8 @ 14	8 @ 12
Geese, per lb................	10 @ 12	7 @ 10
Turkeys, per lb..............	10 @ 15	8 @ 12
POTATOES—Dykman, p. bbl..	2 50	2 50 @ 3 00
Mercers, per bbl.............	2 25 @ 2 50	2 25 @ 2 75
Buckeyes per bbl.............	1 25 @ 1 50	1 50 @ 1 62
Peach Blow, per bbl..........	1 62 @ 2 00	1 87 @ 2 00
Nova Scotia, per bushel......	50 @ 55	50 @ 55
Sweet Delaware per bbl.....	5 50 @ 6 00	6 50 @ 7 00
TURNIPS—Ruta baga, per bbl	1 00 @ 1 25	1 13 @ 1 25
ONIONS, Red & Yellow p. bbl.	3 50 @ 3 75	4 50 @ 5 00
CABBAGES, per 100...........	4 00 @ 8 00	6 00 @10 00
CARROTS, per bbl............		1 50 @ 1 75
BEETS, per bbl...............		2 50 @ 2 75
DRIED APPLES, per lb.......	5 @ 9	5 @ 9
DRIED PEACHES, per lb.......	22 @ 25	24 @ 26
DRIED RASPBERRIES, per lb..	23 @ 24	24 @ 25
APPLES, choice, per bbl......	3 50 @ 4 00	3 50 @ 4 00
Apples, mixed lots, per bbl..	2 50 @ 3 00	2 50 @ 3 00
Apples, River, per bbl........	2 00 @ 2 50	2 00 @ 2 50
PUMPKINS, Cheese, per 100...	8 00 @10 00	12 00 @18 00
SQUASHES, Marrow, per bbl..	2 50 @ 2 75	4 00 @ 4 50
Hubbard, per bbl.............	2 50 @ 2 75	4 50
CRANBERRIES, per bbl	8 50 @11 00	8 00 @10 00
PIGEONS, Wild, per doz......	90 @ 1 25	90 @ 1 25
PRAIRIE CHICKENS, per pair.	60 @ 80	
QUAIL, per doz...............	1 50 @ 2 00	50 @ 1 50
PARTRIDGES, per pair........	50 @ 1 00	50 @ 75

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The Loan is called 5-20 from the fact that whilst the Bonds may run for 20 years, yet the Government has the right to pay them off in Gold, at par, at any time after 5 years.

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By very large outlays for early and authentic advices by telegraph and otherwise from its own correspondents with the various armies of the Union, and by special efforts to furnish such information respecting Markets, Crops, new discoveries or improvements in Agriculture, &c., as must specially interest farmers, we have assiduously labored to make a journal calculated to meet the wants and subserve the interests of the Producing Classes. That end we have at least measurably attained; for no other newspaper exists in America or Europe which is habitually read by nearly so many farmers and their families as is THE TRIBUNE to-day. We shall labor to increase both the number and the satisfaction of this by far the most numerous class of its patrons.

During the existence of the Whig party, this paper supported that party, though always sympathizing with the more liberal, progressive, Anti-Slavery "wing" thereof. When new issues dissolved or transformed old organizations through the spontaneous uprising of the people of the Free States against the repudiation of the Missouri Restriction, THE TRIBUNE heartily participated in that movement, and was known as Republican. When the long smoldering conspiracy to divide and destroy our country or reduce it entire to complete abasement to the Slave Power culminated in overt treason and rebellion, it naturally, necessarily regarded resistance to this conspiracy as paramount to all other considerations, and devoted all its energies and efforts to the maintenance of our Union. In every great controversy which has divided our country, it has been found on that side which naturally commands the sympathy and support of the large majority of school-houses and the decided minority of groggeries, and so doubtless will be to the last.

Ardently desiring and striving for the early and enduring adjustment of our National distractions, THE TRIBUNE leaves the time, the nature and the conditions of that adjustment implicitly to those lawfully in authority, confiding in their wisdom and patriotism, anxious to aid them to the utmost in their arduous responsibilities and not to embarrass them even by possibility. Firmly believing in the Apostolic rule—"First pure, *then* peaceable"—holding that the total and final extirpation of Slavery is the true and only absolute cure for our National ills—that any expedient that stops short of this can have but a transient and illusory success—we yet propound no theory of "reconstruction" and indorse none that has been propounded by another—neither Sumner's, nor Wilding's, nor any of the various Copperhead devices for achieving "Peace" by surrendering the Republic into the power of its traitorous foes—but, exhorting the American People to have faith in their Government, to reinforce their armies and replenish their treasury, we believe that, if they but do their duty, a benign Providence will in due time bring this fearful struggle to such a close as will best subserve the true greatness of our country and the permanent well-being of mankind.

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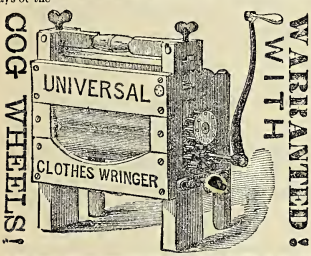

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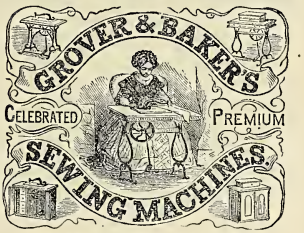

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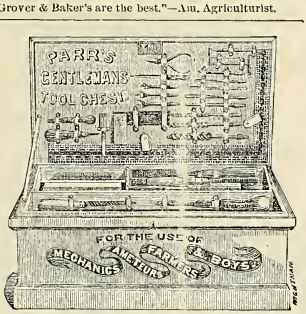

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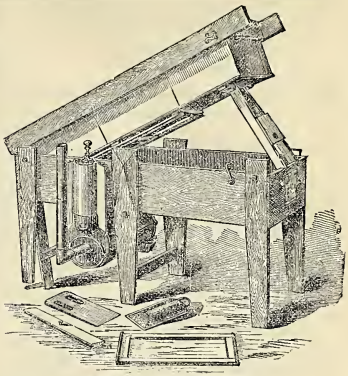

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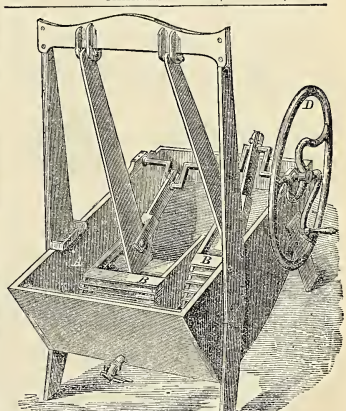

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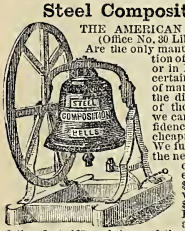

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☞ We respectfully solicit the kind aid of every reader of this Journal, in introducing it among his friends and neighbors. The price of paper keeps up to nearly double former rates, which greatly increases the cost of publication. It will be a hard year for us, if we adhere to the old terms, as we desire to do; but a full list of subscribers will help through the expenses. Every name will aid in this direction, while every copy introduced into a neighborhood will tend to the awakening of thought, and promote improvement, not only on the part of those who read it, but will indirectly benefit all others whom they influence by their words or example.

Good pay, in the form of premiums, is offered on page 25, to those who devote time to making up and forwarding large clubs. But, aside from these inducements, we invite each reader to forward a name or more. We will, at least, be thankful to each one who does this, and will return the favor by the making the paper as good as we can.

The Strawberry-Plant Distribution—Explanations to New Subscribers.

Many thousands of new subscribers are now arriving, and sundry questions are asked by them, concerning the plants to be distributed. We therefore explain in this first number of the Volume: Last Summer a remarkable new strawberry plant was first brought to notice, by the aged Seth Boyden, the noted inventor of Patent Leather, Malleable Iron, etc. It attracted great attention, from its wonderful size, its apparent productiveness, its good flavor, and beautiful scarlet color extending to the center. Within half an hour of its first being seen, the Publisher of the *Agriculturist* conceived the plan of securing all the plants, (but few in number,) and multiplying them for general free distribution among his subscribers for 1864. A high price was at once paid for the plants, and much labor and expense have been, and are being devoted to their care and culture. Leading, experienced cultivators, who came in afterwards, were so impressed with the appearance and promise of the new plants, that they offered large sums for the monopoly and sale of them but the orignial design of the Publisher has been adhered to, though he could sell out the plants to-day for enough to buy a good farm.

If the plants prove as good as they promise, our readers will get the first benefit, and the public will soon be supplied through them. If they should not prove to be *all* that is confidently anticipated, no one will be the loser, except the publisher, as the cost to each recipient, is only *five* cents (in addition to their subscription at single or club rates) which barely covers the postage and oil-cloth when they are to be sent by mail. Having distributed over 50,000 other strawberry plants, to all parts of the country, through the mail, and with very rare failures, we doubt not that these will go safely in the same way.

Over an acre of ground is now planted with them, and it would have been thoroughly covered with runners but for the unpreecedented drouth last Autumn. As it is, we shall at least have several tens of thousands of plants to distribute the coming Summer, and we *expect* to supply every applicant on our books this year, in time to get the plants well started before the season closes. The distribution will be in the order the names of applicants stand upon our subscription books for Volume XXIII, beginning with those entered last July, and continuing on until *all* are supplied. Those applying in the future will be supplied as certainly as those in the past, but must wait their turn. If through a bad season or otherwise, we cannot get plants enough this year for the last applicants coming in they will be supplied in order, the next Spring. All applicants now on our books, and many thousands more, will certainly receive the plants this year, Providential casualties only excepted.

ALMANAC FOR 1864.

1864.	Sun.	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	1864.	Sun.	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.
Jan.	..	..	..	..	..	1	2	July.	..	..	..	..	..	1	2
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AMERICAN AGRICULTURIST,

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Notes and Suggestions for the Month.

Why the Fishes (Pisces) should be the name of the Zodiacal sign for February, has puzzled even astronomers. A plausible theory is, that the constellations of the Zodiac were named in Egypt, about 2500 years before the Christian Era, at which time the groups of stars called, Aquarius (the Water-bearer) and Pisces, rose just after sunset in the months of January and February. During these months the Nile overflows its banks, hence the Water-bearer, and the Fishes would there be very appropriate names, and would naturally be chosen by Egyptian astronomers to designate those months.

Although in this latitude fishing is not a leading matter of interest in February, yet in many places, much amusement, and profit as well, can be enjoyed even while the ponds and streams are ice-locked and the merry skaters are gliding over the quiet haunts of the pike and the perch. These fish readily take the bait from lines lowered through holes cut in the ice, and a well prepared chowder, for which our artist has provided in his sketch, is a welcome addition to the pleasures of a skating party, with appetites whetted by frosty air and vigorous exercise.

It is an interesting fact, perhaps not generally known outside of scientific and sporting circles, that the young trout are hatched during the last of January and first of February. The female deposits her eggs in a gravelly basin or bed carefully prepared by the male. He is constant to his mate while she is spawning, and will allow no stranger to approach the chosen domicile. The eggs are fecundated immediately after being laid, and the slow process of hatching consumes from eight to ten weeks, or more, depending somewhat on temperature. The eggs of some other fish require even longer periods: the salmon which appears in early spring requires five months for incubation. The breeding of fish deserves more than the passing notice, with which it might be here dismissed were it only a matter for scientific inquiry or for affording occasional recreation. The rapid declension, and entire extinction in many streams, of a most valuable source of food is of no little importance, particularly, as experiments have shown that it may be remedied. In France, the government lent its aid to restocking the trout, salmon, and other home fisheries. All the accounts received have been favorable as to the success of the enterprise. Eight or ten years ago the matter was considerably discussed in this country, and several experiments were undertaken with various results. Enough however was accomplished to show the feasibility under proper management of again repeopling the cold-spring brooks with trout, the ponds with pike, perch, bass and other appropriate species, and the nothern tide-water streams with the salmon whose finny ancestors once gave both sport and sustenance to the aborigines, and profitable employment to the first settlers from the Old World. We shall be pleased to publish facts tending to awaken a new interest in the subject, or if the enterprise be impracticable, to know the circumstances and reason of failure. Two obscure fishermen in France, skillful only in their craft, brought the art of pisci-culture or fish-raising to its prominence in that country, and there is no lack of men or means on this side the Atlantic to improve upon their ideas and develop this new branch of industry here.

Work for the Farm, Barn, and Stock Yard.

Animals.—All the animals of the farm should be glad to see their owner, and in fact every other person who has to do with them. *Man* should be recognized as their best friend. Colts and steers particularly, should be petted and handled constantly. Treated thus, they will never need *breaking.* If there be a stable boy who plays with the horses by pinching or pretending to pinch their flanks, keeping himself out of the way of kicks and bites, no wonder they become vicious. The same boy in passing through the cattle yard will crack the cattle over the back with a fork handle if they are caught standing in the driest parts of the yard when he wants to pass. The result is always the same—a yard of wild cows and ugly steers to be afterward "broken" by fear and a goad. Feed roots to all classes of stock, particularly to those which may be breeding, and by this means counteract the tendency to constipation.

Building.—Study to make changes which will save steps and afford decided conveniences. Paint lasts a great deal longer if put on in winter instead of in summer, and is less likely to be defaced by dust while in the green state.

Bulls.—Train young bulls to the yoke. In a single yoke or harnessed with gear, much labor may be done by a bull. He will be quieter for it, a better stock-getter, and much less dangerous in every way. A bull's will should always be controlled and his anger never excited. Insert a ring in the nose of unmanageable animals.

Calves dropped in February can seldom be afforded fresh milk. They should therefore be weaned as soon as possible, and fed with skimmed milk, clover tea and gruel.

Cows.—It is common practice to have cows come in about 40 to 60 days before they can be turned out to pasture. This makes March or even April, the calving time in this latitude. Still many cows come in in February. They ought to have good hay, a daily feed of cut roots slightly salted, and a little meal sprinkled on this. For a few days before calving they should be removed to a roomy stall or loose box to get a little at home in it. They should be looked after, but let alone unless in serious trouble. After parturition give a warm bran mash made with scalding water, and let the cow return to her ordinary feed, increasing the amount of roots and grain if the flow of milk is great, or exhausting.

Horses.—See hints in last month's calendar. If, as often happens in winter, a horse's coat is full of dirt and scurf which currying appears to develop but not remove, a change of diet is needed. If possible, feed roots, and also give free access to salt. In the absence of roots, bran wet with plenty of warm water may be a partial substitute, especially in cases of constipation.

Hired men, if not already provided for the season, should be secured in February. The best men are usually engaged first. See hints on page 47. Many immigrants are expected this spring, among whom will doubtless be some good farm hands. See Basket item on this topic.

Ice.—The "ice crop" has been unusually abundant; the character of the ice most excellent. Still more may be secured, if the weather is such as to keep it solid, or freeze it afresh.

Manures.—See sundry articles in this number on a subject so important both west and east.

Maple Sugar.—Several warm days will cause the sap to flow, and the first flowings are richest in sugar, so there should no time be lost, but preparations be early completed. See page 43.

Potatoes.—Keep seed potatoes in the coolest part of the cellar, secure from frost. Examine others, removing decayed ones, and rubbing off the sprouts that will start if they be kept warm.

Plowing can very seldom be done this month with profit. Very dry and porous soil may sometimes be broken up, however, and with advantage.

Poultry.—Examine carefully for vermin; grease, or better, whitewash the roosts. Clean out the nests, put in fresh straw, and whitewash the whole poultry house.

Roots are a substitute for green feed, which no good farmer ought to be without. Sort over all kinds, separating the soundest to keep latest into the spring. Feed the partially decayed and wilted at once. Be careful not to feed decayed turnips, rutabagas, or cabbages to milch cows—the milk will taste. Cook before feeding, all that are not entirely fresh and sound.

Sheep.—Some lambs intended to be marketed early, will be dropped this month. The ewes should be kept at night in tight, well ventilated stables, without much litter, for some time before and after yeaning. Pregnant ewes should not be denied exercise, nor furnished with stimulating diet. Some turnips daily are very desirable. Exercise promotes health of the ewes, vigor of the lambs, and a full flow of milk—and the ewes must be forced to take it, in cold, snowy winters like the present one.

Swine.—Store pigs will often pay for their keep by the work they do on the manure, and the manure they will make if plenty of muck has been laid in. See that they do not pack the manure so hard that it will not ferment at all. Encourage them to work it over by dropping nubbins into holes made with a bar. A breeding sow, irritated by other animals, fed on corn meal, and withal a little constipated at the time of farrowing, is apt to be very cross and sometimes to eat her young. Prevent this by giving a daily feed of raw potatoes, or other roots, with bran or linseed meal instead of Indian, not allowing her to be disturbed, nor to become fat. Give a clean well littered sty, and watch her at the time and after farrowing, giving her a warm bran mash as soon as she will eat.

Wood.—Cut and haul fire-wood for next winter.

Wool.—See the report on wool market, elsewhere.

Orchard and Nursery.

But little out-of-door work can be done this month, except to afford the required protection to trees and shrubs. Great care should be taken to exclude stock of all kinds from the nurseries and young orchards, and to guard against a heavy accumulation of snow upon evergreens and shrubs.

During mild, thawing weather the trunks of old trees may be scraped and washed over with a strong solution of soft soap or weak lye. This will remove the moss and loose bark, and conduce both to the health and appearance of the tree.

Cions may be cut during mild weather, any time before the buds begin to swell: keep in a cool cellar in damp earth or moss. Root grafting, where it is carried on extensively, will afford sufficient indoor employment. Ample directions were given in January. Those who do grafting by contract are desirous of beginning their season as early as possible; but cions put in too early are exposed a long while to cold drying winds, and are less likely to succeed, than if inserted after vegetation starts.

Manure and compost may be hauled to places where they will be needed in spring. We have so often insisted upon the importance of sending orders to the nurseries before the spring's business opens, that we merely allude to it now.

Kitchen Garden.

As in the other horticultural departments, there is little to add to the suggestions given last month. Not much can be done at the North before March.

Cold Frames should have plenty of air on mild, warm days, and abundant protection on cold ones.

Hot-Beds. In nearly all the localities now reached by the *Agriculturist*, these will not be needed until next month. Every thing should be in readiness with a good supply of long stable manure.

Horse Radish. This may be dug whenever the ground is thawed. If not marketed or used at once, cover with earth in the cellar to keep it fresh.

Pea Brush, Bean Poles, stakes and supports of every kind—procure them before the busy season.

Rhubarb. Small quantities may forced by taking up roots and putting them in boxes of earth in the green-house, when leaves will soon be produced at the expense of the roots. It may also be forced in the beds, by placing a box or barrel open at both ends, over a plant, and then piling an abundance of fresh stable manure around it. A cover should be put on during freezing weather and at night.

Seeds.—It is vain to expect good results from poor seeds and we cannot too often repeat the advice to buy from reliable sources only. If you know no responsible dealer, send for a catalogue to some one of those who advertise with us, and order seeds by mail. The postage on seeds is only 2 cents per ¼ lb., and if it were much more, it would be cheaper to pay it than to buy poor seeds.

Tools.—It is not well to wait until tools are needed, before supplying deficiencies. Buy only the best. Get the lightest, if equally efficient. A few ounces weight in a spade, fork, or other tool, make a great difference in the comfort of using it. Make all needed repairs in advance.

Fruit Garden.

Make selections and send orders for such plants as will be needed. Make cuttings of currants and gooseberries, and bury them in earth or treat them as directed for quince cuttings on page 49. If it is intended to grow the bushes to a single stem, cut out all the buds from the part which will go in the ground. Neglected grape vines may be pruned during mild weather. Save the cuttings for planting in spring, by burying them in the cellar. In pruning, leave at least an inch of wood above the bud. Look out for mice and rabbits, which will often do much mischief. Tramp the snow around the plants to keep out the mice. It is said by several, that greasing the lower parts of the trunks will prevent trouble by rabbits. We have never tried it, but it has been asserted by so many that there must be some ground for the statement.

Flower Garden and Lawn.

The labor here is mainly anticipatory. Now is a good season to note where the introduction of evergreens would improve the appearance of the grounds. Have all plans for improvement well considered before the working season comes on.

Cold Frames.—Air every mild day; guard against frost on cold ones. Plants need very little water.

Evergreens.—Shovel away snow banks from around the lower branches of evergreens to keep them from being broken when the snow settles, and shake the accumulations from the upper branches while the snow is yet light.

Protection.—See that the straw, matting, earth or other protecting material for tender plants, is not displaced by any accident. If the Rhododendrons have not been covered, put up some kind of shelter, to protect them from the alternations of heat and cold which occur in spring.

Shrubbery.—This is often injured by heavy collections of snow in the branches, which should be shaken out before it becomes icy. Pruning and thinning out may be done in mild weather.

Trellises.—Make, repair and paint at this season. Aim at neat, plain, rather than fanciful forms.

Green and Hot-Houses.

The directions for temperature noted for last month should be observed. Ventilate whenever the external temperature is above 45°.

Annuals.—Sow seed of Phlox, Rhododendron, Nemophilas, and others intended for growing in pots. Where there is space, fill it with annuals.

Azaleas should now be in full glory. Give plenty of water during the blooming and growing season.

Bedding Plants.—Put in cuttings for a stock to plant out in spring. A good supply of Verbenas, Lantanas, Ageratums, and the like, is always needed. See articles on propagating from cuttings, page 49.

Bulbs.—Bring forward from a cool to a warm and light place, a few at a time, in order to have a succession of bloom.

Climbers.—Lophospermums, Cobæa, Maurandias and others, to be started from seeds, may be sown.

Camellias.—Keep the foliage clean, but avoid wetting the flowers, as this will discolor the petals.

Carnations.—Propagate by cuttings. Give water more freely as they push their growth.

Fuchsias.—These having had their season of rest, may be cut back, repotted, and started into growth. If vigorous plants are wanted, cut back severely.

Insects.—If not watched these will get the mastery. Syringing will destroy many. Whale oil soap and fumigation must be used for the more obstinate. The Insect Powder sold at the drug stores, which is the powdered flower of a species of Pyrethrum, is said to be efficient, in powder or infusion.

Lantanas.—Bring into growth same as Fuchsias.

Pelargoniums.—Pinch back to get stocky plants. Give rich soil and plenty of water, with an occasional taste of liquid manure. Make cuttings now.

Re-pot all plants needing it. Give Gloxinias and Gesnerias plenty of pot room.

Syringe freely to keep up a proper degree of moisture in the atmosphere.

Water.—Give what is required, but avoid excess. The water should be of the temperature of the house. In the absence of a tank, water may be kept in a tight barrel, sunk into the earth, within the house.

Apiary in February.

Prepared by M. Quinby—By Request.

The period of inactivity with bees will extend through most of February, yet there will probably be a few days sufficiently warm to waken those standing in the open air. If snow is on the ground, which has lain long enough to be a little hard, the bees may be allowed to fly at pleasure. A warm day immediately after a fresh snow, will often call out the bees. They settle on the snow for rest, and in attempting to rise, they manage to make a hole deep enough to bury themselves out of the sunshine, and perish. Place a wide board on the sunny side of the hives, to shade and keep them as cool as possible. It is desirable to keep bees in by some other means than closing the hive, because as many will be likely to perish in vain endeavors to get out, as would be lost in the snow if let out. The thick wall of a straw hive, being almost a non-conductor of heat, is not much affected by a few hours of sunshine, consequently the bees seldom issue when the weather is unsuitable....Before bees fly out and mark their locality, they should be placed on their summer stand. If any stands are to be changed, do it now. Have a separate stand for each hive, where there is room, and let them be at least six feet apart. If it is decided to pack the bees close together in a bee-house, let the hives be of different colors, alternating with each other. It is also important to prepare for rearing queens artificially, to supply the colonies that lose them in the swarming season....Bees in winter quarters should remain as nearly undisturbed as possible. Should any become uneasy, as will be shown by some of them leaving the hive, and smearing their combs with fæces, they should be set out of doors the first suitable day that occurs, for an airing, and returned again. They may be fed, if necessary, by inverting the necessitous hive and putting a little honey upon the empty combs.

The farmer whose pigs got so lean that they would crawl through the cracks of their pen, stopped their "fun" by tying knots in their tails.

Notes from the Fruit Growers' Meetings.

These meetings are regularly held at the *Agriculturist* office on Thursday at 1 o'clock, P. M. It is each month a matter of regret, that our space does not allow more than a mere abstract of the conversations.

E. Williams presented the Glout Moreeau pear, which was generally conceded to be one of the best winter pears; does better as a standard than dwarfed on quince.

W. S. Carpenter was totally opposed to planting dwarfs, and considered that their introduction had done much to deter persons from cultivating pears. He now plants standards only, and had fruit as early, and in greater abundance than those who set out dwarfs.—Knew of a large plantation of pears on quince, set out a few years ago, and not a single tree remained.

T. W. Field was not devoted to the culture of dwarfs to the exclusion of others, but claimed that they had great merits, and that certain varieties like the Duchess, and others, were much improved and lost their grossness when grown on quince roots. The Louise Bonne did not make a good junction with the quince root, and the tree was apt to break off at the point of union.

W. S. Carpenter remarked that the quince stock should be budded low, and when transplanted, the junction should be two or three inches below the surface: if the trees have long quince shanks, don't try to set deep. He saw an orchard of long-shanked trees set 15 years ago, and not one is alive now. Regarding the forwarding of trees by budding on quince, his own, on pear roots, bore too soon, and too abundantly, and he gives a decided preference to pear roots in all cases; thinks thousands of pear trees would now be growing where there are hundreds, had it not been for the quince stock. He planted 120 trees 3 years ago (Bartletts, B. D'Anjou, Paradise D'Automne, Fulton, B. Clairgeau, Lawrence and Howell) and had 300 to 500 specimens last season.—He saw an orchard of 1000 standard trees last fall, mostly Flemish Beauty and Buffum, 5 years planted, where the owner had not lost 5 trees, and had 25 barrels of fruit last season, with a promise of 100 barrels this year. We can get fruit in quantity sooner on pear than on quince roots.

Mr. Williams removes the earth from quince stock and buds low down; they always root near the surface. If a furrow is thrown against a quince tree roots push out into the fresh soil.

T. W. Field summed up in favor of the quince or dwarf pear tree: More trees can be grown on a small space; we get fruit sooner; the fruit is of finer quality; it hangs on better, and being nearer the ground is not liable to be blown off; a larger per cent of dwarf than of standard trees survive transplanting—he would not expect to lose more than 10 out of 1000 Duchess trees on quince, while 50 per cent is about the proportion of Bartletts on pear roots which would be alive 5 years after planting.

Dr. Trimble said that 20 to 30 years ago it was not uncommon to see large and healthy peach trees bearing full crops every year; now three crops was all that peach trees would average and the same soil would bear only one crop of healthy trees. The most successful growers buy a new farm for each crop of trees. Yellows is an inherent disease, as much so as the scrofula in the human system, and the promiscuous planting of pits from unhealthy trees perpetuates it, though some soils, and some methods of treatment may keep it dormant, while others hasten its appearance. The best cultivators prefer a soil of only moderate richness. Obtain pits from Missouri, California, and parts of Europe where there is no disease, and we may still have healthy trees.

Rev. Mr. Van Doren of Morris Co. N. J. said his father carried choice peach buds from Morris Co. N. J. to Orange Co. N. Y. in 1812, which grew finely 7 years and then began to turn yellow, but were revived by a large shovelful of dry ashes put about the trunk of each tree. They grew another 7 years, and again showed the same disease, from which they were recovered by a double dose of ashes, and grew and bore 7 years longer.

Dr. Ward found ashes very beneficial to the peach and other fruit trees. They are probably benefited by the alkali of the ashes. He finds powdered charcoal heaped up around the trunks a good preventive against the borer. Mr. Van Doren prefers a whalebone probe for killing the worms in the tree—the knife mutilates.

W. S. Carpenter attributes the yellows to worms, starvation, etc: he does not believe it an inherent disease.

The discussion here turned on the influence of the original soil on the future growth of the tree, with special reference to transplanting from a sandy to a clayey soil and *vice versa*. The conclusions arrived at were, that it was essential that the tree be provided with fibrous roots, and show a healthy vigorous growth, no matter what soil it is taken from; a medium, or lightish loam is best for furnishing such roots.

Mr. Carpenter had received and planted trees from nearly all parts of the world, and did not care whether grown on clay or sand if only thrifty in appearance and well provided with fibrous roots.

A. S. Fuller thinks plenty of barn-yard manure will make any tree vigorous regardless of the soil; don't believe in special fertilizers—the tree will find sufficient pabulum in ordinary barn or stable manure, though a sandy soil would be benefited by a good coating of muck. Barn-yard manure should be well rotted—don't believe in heavy manuring for *fruit*; better not induce the growth than have to cut it off afterward. Undecomposed manure, spread on at time of fruiting, imparts a disagreeable flavor to fruit, especially grapes, besides tending to burn the lower leaves. We want just enough vine and leaves to perfect the desired amount of fruit.

E. W. Mattison of this city, presented 5 pears, raised in California by R. G. Moody, of San Jose. The 5 weighed 13¼ lbs; the heaviest specimen was originally 3½ lbs. The size was the only thing remarkable, they being coarse and flavorless. The variety was not recognized.

Dr. Ward showed a model of his famous Duchess pear, raised in Newark, N. J., a few years ago, and believed to be the largest pear grown in the Atlantic States, weight when plucked, 35½ ounces.

Solon Robinson read a letter from Indiana, objecting to leaving naked trunks to fruit trees, six to eight feet high. In that vicinity a disease attacks the south west side of nearly all fruit trees, and cultivators are planting with low trunks to remedy the disease. Others allow sprouts from the roots to grow up and shade the trunk. The writer thinks a man should be satisfied with a crop of fruit without taxing the soil for a crop of grain besides.

Dr. Ward had noticed that cherry trees, especially when on the south side of buildings where there was not a free circulation of air, were frequently killed; he thinks low branched trees might remedy this.

W. M. Doty said trees were troubled at the West with this disease, which he attributed to sudden changes of temperature from warm sunshine to freezing; thinks the trunk must be shaded or sheltered by something besides branches, which in winter afford very little protection.

A western pomologist present thought low heads preferable for prairie regions, and that thorough mulching was better than cultivating the ground.

A. Parrish would not plant apple trees for cattle to browse, hence if cattle are to have the range of the orchard, the trees should be trimmed high up, though the practice was all wrong. There is a difference with sorts: 18 inches was high enough for the trunk of a Northern Spy, while some drooping sorts should be trimmed 6 feet.

Mr. Field would as soon turn cattle into a cabbage or corn field as into an orchard.—Approves of low branching trees for three reasons: the tree bears much sooner; the lower branches are those which usually bear first, and if cut off, more time is needed for others to acquire a bearing age; fruit can more readily be thinned and gathered from low heads. Wind touches low trees more lightly, and if fruit does blow off, it does not fall so far.

Solon Robinson remarked that the disease or decay of the south-west side of fruit trees was the principal thing the southern fruit grower had to contend against. It was attributed to sudden changes of temperature.

Fruit Notes from Connecticut.—E. T. Bull, N. Haven Co., Conn., says that the Pawpaw grows and fruits in that place and he thinks nurserymen should introduce it. Mr. B. thinks that the Flemish Beauty is the best standard pear for a light warm soil, and observes that the Baldwin apple if grown on heavily manured and cultivated ground, becomes so sour and coarse-grained as to be nearly worthless.

Farm Help from Newly Arrived Immigrants—Facts for Western Farmers.

An average of 3,000 people per week arrive at this port—156,000 during 1863. The majority are good farm help, and ready to settle in any part of the country. Some time ago the Commissioners of Emigration, who have a care for all these people when they first arrive, undertook to send farm help, men and women, to the West on condition of receiving from responsible parties, money enough to buy tickets through to their destination. The result was, that only about one-fourth reached those who pre-paid their fare, and not even one-half left the State of New York. Entire ignorance of distances and customs in this country, credulity and stupidity combined, led the immigrant to consent to leave his route, with companions who stopped on the way, or to hire himself to another party. This practice was therefore given up. Still, however, the Commissioners wish to assist the immigrant to find his way westward, and to help Western farmers to secure good help. It must be done as suggested on page 47. Farmers in the same district should select one or two good men, give them credentials from responsible and well known parties, as a guarantee to the Commissioners that they are honorable men, and that the immigrants will be well cared for. These agents should come to New York, select desirable single persons of either sex, or families, and then go with them all the way back. Superintendent Casserley says this is the only way, and that correspondence with the Commissioners will elicit no further information. They are strict in allowing none but persons of thoroughly responsible and honorable character to communicate at all with the immigrants, if they can help it. There is always considerable choice among those continually arriving. Five lines of steamers besides numerous sailing ships are constantly landing their living freight at Castle Garden. The effects of the derangement of the system of labor in the "Border States," are already influencing a great diversion thither of emigrants who have hitherto gone westward. The South is soon to compete with the West, for the flood of immigration which is likely to increase in view of the probable settlement of our own difficulties and the very unsettled state of Europe. It therefore shows a very great want of sagacity on the part of those who manage the railroad interests of the West, that just at this time they should raise the fare on emigrant trains. The West should remember that the South offers an old country, a very genial climate, great variety of productions, and no slavery to degrade labor. Almost the only advantage in favor of the West, clearly apparent to the emigrant, is *facility of transportation*, which ought not to be decreased

Producing Animals of either Sex at Will—Important Experiments.

Every animal and plant grows up from a single, simple cell, produced by the female.—This is called in plants an ovule, and in animals an egg. (For some account of cells see page 48). Independent vitality and organization is imparted to this cell, by contact with a product of the male plant or animal. This is called impregnation. In all, except some of the lower forms of animal life, the males and females are distinct individuals. They are equally distinct in many plants.—Perhaps no power is more desired by breeders of farm stock than the ability to cause *the production of either sex at will*. Some time ago Prof. Thury of Geneva made some very important investigations and arrived at conclusions, which if demonstrated, will be recognized as of immense importance. He submitted his views to the Academy of Sciences, and a commission was appointed to verify them. So far as we know this commission has not yet reported—but J. A. Barral, the well-known agricultural writer and editor has published a statement which we find translated in part in the Country Gentleman. From this we learn, that Prof. Thury asserts *that the sex of the future animal (or plant) is settled by the maturity of the cell (ovule or egg) at the time of impregnation—a very mature cell producing male, and one less mature producing female offspring.* Thus, when an animal comes in heat, the egg, though mature, is much less mature than toward the close of this period. In accordance with this theory he advises, that when heifer calves are desired, the very earliest period of a cow's coming in heat should be taken advantage of—and if a bull calf is wanted, the latest practicable moment. A series of experiments are cited, made by a son of the president of the Ag'l. Society of Southern Switzerland, in Canton Vaud. This farmer had a herd of Swiss cows, and used a Durham Short-horn bull. He obtained heifer calves in 22 successive cases. Wishing to raise 3 yokes of steers, he selected cows of similar color and form, and bred with this object in view. The result was, six bull calves, well mated for working cattle. His own words are: "I have made in all 29 experiments by the new system, and *all have given the product sought, male or female, without a single instance of failure.* These experiments were all made by myself, and I regard the system as perfectly correct and sure." We commend it to the readers of the *American Agriculturist* for experiment, and hope to have reports of its success or failure.

Notice to Certain Agricultural Editors.—It is said that a certain devout member of the Friends' Society, was several times misused by a bluff neighbor, but he carried out his principles of non-resistance, until "forbearance ceased to be a virtue." Finally the assailant met him one day, struck him on one cheek, and bantered him to turn the other. The Quaker did so, and received a second blow. "Now" said he, "I have fulfilled the law, and I shall give thee a thrashing,"—which he did. We should be tempted to take the same course with certain jealous contemporaries who indulge in all sorts of unmannerly hints and false innuendoes; but the fact is, our time and space can be put to better use. The engineer of a mammoth rail-road train filled with *live* passengers, cannot "whistle down the brakes," and have a set-to with every snarling whiffet, nor even with the rural mastiff, that chooses to bark at the passing cars. Our rule is, to seek pre-eminence by earnest attention to the pages of our own paper, and not attempt to rise by trying to pull others *down*.

Containing a great variety of Items, including many good Hints and Suggestions which we give here in small type and condensed form, for want of space elsewhere.

Newspaper Mail Burned.—There were two fires among the mail bags, about the time our December and January numbers were sent out. As near as we can judge, our papers mainly escaped. If, however, from this or other causes, any subscribers failed to receive any of these numbers, they will please notify us.

Unanswered Letters.—During six weeks past, from five hundred to two thousand subscriptions to the *American Agriculturist*, have been received daily. With them have come many queries, hints, and suggestions, for which we are thankful. A thousand or more of these are answered or referred to directly or indirectly, in articles or items in the present number, and the others will receive the earliest possible attention. Let the material still accumulate; it will keep well, and be turned to good account. A large number of letters on personal matters, requiring answers by letter, have also come to hand. Several hours daily and nightly have been devoted to such, but many are yet unanswered, simply because there are not hours enough in the day.

No Seed Distribution this Year.—Our annual custom has been to offer free to all our subscribers, a large assortment of field, garden, and flower seeds. In this way millions of parcels have been scattered over the land, and the multiplied products are to be found in almost every county and town from Maine to California. This year we must forego this pleasant custom, for four reasons: 1st. The severe drouth greatly deteriorated our growing seed plants; 2nd. The more than doubled cost of importation, deters us from getting the usual assortment of choice new Seeds from Europe; 3rd. The greatly increased cost of printing paper, etc., leaves too little margin of profit for the expense; and 4th. The strawberry plants involve all the trouble we can manage this year.

Convention of Cheese Diarymen.—Pursuant to a call signed by some forty proprietors of "cheese factories," this convention was held at Rome, N. Y., January 6th. There were present a very large number of those interested, chiefly from Central and Western New York. The cheese factories represented, consume the milk of 40,000 cows. Various processes of cheese making were discussed. A plan for a State Association was presented and adopted. The officers elected were *President*, Hon. George Williams, Onelda Co.; *Vice Presidents*, Col. Seth Miller, Lewis Co., D. Hamblin, Jefferson Co., A. L. Fish, Herkimer Co., J. E. Morse, Madison Co., Moses Kinney, Cortlandt Co.; *Secretary*, William H. Comstock, of Utica; *Treasurer*, R. R. Lyon, Lewis, Co. More than one hundred members joined the association. Any person becomes a member by payment of one dollar. It was decided that the association would not establish an agency in New York city. The officers are expected soon to issue in pamphlet form the reports had from numerous cheese factories, in connection with other valuable information. This is an important move, and if not prostituted to mere speculative ends, will be of very great value to the country at large, and particularly to the great dairy regions of New York.

Health of 'Squire Bunker.—In answer to many anxious inquirers about the health of our old correspondent, the Yankee 'Squire of Hookertown, Conn., we are happy to say he is well and will doubtless be heard from in the next *Agriculturist*—perhaps (like an old razor), all the shrewder and sharper for having been off duty for a few months.

Grape Queries.—"W. H. D.," Rochester, N. Y. See page 325 of November *Agriculturist* for list of market grapes. The Delaware and Clinton are as far as known the only really hardy wine grapes. The Concord has a reputation as a wine grape in Missouri, but little is known of it, in this respect, at the North.

Canada Postage on Seeds, etc.—As stated last month, packages of seeds, cuttings, bulbous roots, and cions or grafts, are posted in Canada for delivery to any address within the Provinces or in the United States, by pre-payment with postage stamps, at the rate of *one cent per ounce*. Such packages received from the United States are charged the same rate, on being delivered. The parcels are not to exceed 16 ounces. No communication, other than the address and a statement of the nature of the contents, can be written or printed on the parcel or enclosed in it. It must be put up so as to admit of easy examination of its contents. If in bags, they must be simply tied at the neck so as to admit of inspection if desired. We understand that this does not cover United States postage on such parcels as are sent from this country, our law requiring all such parcels to be pre-paid, wherever they may be sent to. Dealers and others here will of course pre-pay the United States postage, and Canadians will only need to pay their one cent per ounce. This will give the two countries excellent facilities for interchange of seeds, plants, etc. We can hereafter send our strawberry plants, and other articles, to Canada subscribers, the same as to those in the U. S., without the fear that they will be sometimes taxed $3.20, instead of 16 cents per lb.—Books, book manuscript, proof sheets, maps, prints, drawings, engravings, photographs, printed or written sheet music, go at the same rate as seeds, if no glass be in or about the package. The above applies only to Upper and Lower Canada, but we hope to soon announce a similar liberal policy in the Post Office Departments of the other British Colonies.

The Agriculturist at the South.—Before the breaking out of the war, this Journal circulated considerably in the Southern States—but, in no region so largely as in Eastern Tennessee. The war cut those all off for a time, but almost the first through-mail has brought back renewals from points previously inaccessible. The following is one of this class: "Chattanooga, Tenn., Dec. 25. Dear Sir: Enclosed please find $1 for the *American Agriculturist* for 1864: it will be a welcome New Year's Gift, after having been so long deprived of it."—Our circulation at the South lost by the war, has been more than made up elsewhere, but we shall gladly welcome back our old subscribers in Tennessee and other regions, as fast as communication is opened.

Land for Sale and to Lease at the South.—The Commissioners appointed by Government, are selling land of rebels for the taxes, at rates but little higher than Government wild land. Officers appointed for the purpose, in the cotton and sugar districts, lease plantations under certain conditions to men who come well recommended. Concerning lands in South Carolina and Florida, information may be had by writing to Brig. Gen. Rufus Saxton, Beaufort, S. C. Or a letter to Secretary Usher, of the Department of the Interior at Washington, D. C., would probably bring out the facts relative to all such matters.

What Books to Buy.—Many who wish to add to their stock of information—a praiseworthy desire—ask us to tell them by letter what books to buy on certain subjects. This is not possible. Our book list on page 62 will give pretty good information. The most esteemed works are marked with a star (*); some are doubly starred, to express their high value. But few really *good* books are published in the world.

Sundry Humbugs.—We hope our readers are by this time too wide awake, and too well informed, to need a lengthy notice of the many new swindles coming out; they will especially abound, as the planting season comes on. Look out for any number of wonderful plants that will be set forth as of surpassing excellence by advertisements and circulars. Our humbug drawer is packed full of such circulars, all sent in by subscribers, which we have not room to notice now. Among them are: A Philadelphia-Nevada-Mining-Company, issuing shares at $2.50 each, the operators of which only give information through the Post Office, and are hard to get hold of. Grant, Harris & Co's "Merrimac (N. H.) Joint Stock (swindling) Company." "Shelby College Lotteries", prizes of which are paid by New York "Bankers" whom nobody here knows. Geo. W. Moore's Dacosta N. J. cash and watch operations. Thomas G. Browne's Bronxville, N. Y., humbug "Cosmopolitan Art Union" prizes, who is *so* honest, and *generous*, as to offer to send you $200 for $10,—the old dodge of writing a letter about mislaid letters, ticket "1649", and offering to lie for you. A Cedar Street concern, seeking agents ("the same old coons"). "A Fortune For All" offered in half a dozen places. "Oriental Sugar Plant" turned up again., "Prof." Weslock's filthy private propositions to young men, already noticed. "Northern Honey", "Health Associations", etc., etc., etc., etc., etc.

White Willow Fences.—In the December and January numbers, we gave the results of the observations of our intelligent and trustworthy Associate, who made a thorough reconnoissance of the region where the wilows have been most largely tried at the West. He went expecting to have little good to say of them, but was happily disappointed. Having no pecuniary end to subserve, he had not the slightest motive to describe them otherwise than as he found them. But while we hope much for the willow, yet in this, as in all other new enterprises, we advise farmers not to rush into their cultivation too hastily. When good cuttings of the true variety can be obtained from parties known to be reliable, it will be well to try a small number at first and to extend the culture, if the soil is found adapted to their growth, as fences or wind-breaks. A good many advertisements have been sent to us, most of which we decline because we know nothing positive respecting the reliability of parties offering them. One of those advertising them, Mr. Pike, was recommended to us as a reliable and responsible gentleman, in a recent letter from one of the corresponding editors of the Rural New Yorker.

What is the Matter in Western York?—During several weeks past, subscriptions have been coming in great numbers from all over the "Genesee Country" and Upper Canada. Nearly 200 names were sent the other day from a single Post Office just out of Rochester. We hardly know how to account for this, as we have no agent there, and have not sent a single showbill, circular, or advertisement into that region for a year or more, thus respecting the pre-emption or "squatter rights" of others. Perhaps the farmers there have in some way heard that one of the Editors of the *Agriculturist* was brought up on a farm near the Canada line, and knows by experience what is needed thereabouts. Perhaps it is in part due to the gratuitous advertising of our strawberry and other premiums by a Weekly contemporary, while contrasting them with his own premium offers.

The Largest Hog ever Seen in America.—An immense hog was killed in this city Jan. 12th, by Lippincott & Martin, butchers, 511 Tenth Avenue. He was freely exhibited, while alive, by his feeder before the door of the *Agriculturist* and other newspaper offices, and excited much interest. Mr. A. H. Benham, of M'Lean, Tompkins Co., N. Y., by whose judicious management his weight reached the enormous figure of **1355** lbs., has been careful to have his weight repeatedly taken and certified to under oath. In February, 1863, he weighed 1120 lbs.; in October 1276 lbs.; December 19th, 1340 lbs. and December 29th, when he left home for the Metropolis, 1355 lbs. He fell off rapidly during the fortnight which intervened before he was slaughtered, and did not feed well, but was active, stood and walked in a very unusual manner for so fat an animal. When killed, January 12th, his live weight was 1272 lbs.; dressed weight 1174 lbs.; offal 73 lbs., blood 25 lbs. Through the courtesy of Mr. Benham we have secured the skin, and placed it in the hands of a skillful taxidermist to be prepared and "set up" in a life-like form, and placed in the office of the *Agriculturist*, where it will stand as Mr. Benham's challenge to the World. It will be finished early during this month.

Worms in Colts.—John Bennett, Ripley Co., Ind. The symptoms you describe are those of worms—but the only proof of the presence of these parasites is ocular demonstration. This you have, but you omit to describe the appearance of the worms. Turpentine is the old remedy for *tape-worm*, the dose being for colts 4 years old and under, as many half ounces as the animal is years old—1 oz. is not too much for a colt 6 months old; but pumpkin seeds are now the favorite remedy for human patients and why should it not do for horses. Try it. Mash the seeds and give them to the colt in the morning, after his fasting 24 hours; follow this with a purge of some sort—6 drachms of pulverized aloes, and 10 ounces of ginger, with enough honey or molasses to roll them into a ball, will do. This may bring away other worms too. For round worm: 2 drachms of tartar emetic given to a full grown horse every morning for several days, in a ball, is recommended, for pin worms injections of train oil and of brine are advised. We have not had much experience with these pests.

How to Feed Turkeys.—A Lady subscriber of Montgomery Co., Pa., describes her method of feeding Turkeys, for the *Agriculturist:* A trough is made by nailing two boards together with end pieces extending 3 inches above the trough; upon these nail a cover. Set this trough firmly on legs 2½ feet from the ground. The Turkeys can reach it and get their heads in. Chickens cannot; neither can they better their condition by flying up upon the trough. She adds "I keep corn or mush always in it and the turkeys eat whenever they are hungry, and will fatten much sooner than when the feed is thrown on the ground. I have fed over 50 the past season, the young ones of which weighed, goblers 18 to 22 lbs., hens 12 to 15 lbs, and they were not of the large breed either.'

Josiah Carpenter's Commission House.—Those who have recently addressed us in regard to this, will please refer to Mr. Carpenter's Card or Letter, in the advertising columns.

Lime and Sorrel.—"B," of Cecil Co., Md. Your argument looks reasonable, but, though we hold with you that lime is a great help in ridding the land of sorrel, yet we have seen land well limed again and again, still full of sorrel—and have never yet known the treatment recommended on page 364 last volume, viz: with lime, barn-yard manure and good tillage, to fail in subduing sorrel for several years. We propose your query to the readers of the *Agriculturist*.—"*Does sorrel ever abound on limestone soils?*"

Book on Compost-heaps.—Reading Farmer.—A reader of the *Agriculturist* writes from Dutchess Co., N. Y.: "Please inform me through the *Agriculturist*, what good work there is on the making of *compost-heaps*. Also whether you think much good can be derived from the reading of agricultural works, such as Liebig's new one on the 'Natural Laws of Husbandry.' My friends laugh at me for *studying* farming. I am not a practical farmer as yet, but will be, I hope, in the course of six months, and I want to be an enlightened one." Very good—stick to the reading, but don't neglect to learn from both good and bad practice. *Johnson on Manures*, is the best book that we know of on the treatment of muck and peat in compost heaps. Price 75 cents.

Canada Thistles.—J. M. Wylie, Windham Co., Conn., reports that he commenced war upon a patch of thousands, cutting them with a hoe on the 6th and 7th of July. The first assault reduced the number to about two hundred; after the second attack but three survived, and these gave in after the third year's good hoeing.

Brahma Pootras.—Mr. O. H. Pick, Melrose, Mass., writes to the *Agriculturist* that he has kept various breeds of fowls, and considers these superior to all others, and that his neighbors are of the same opinion. Their flesh is white and tender, and excellent for the table. He says that they lay larger eggs and more of them during the year than any other sort. With the thermometer varying from 5° below to 15° above zero he has averaged 9 eggs a day from 12 laying hens. Feeds corn, oats, beef scraps, and boiled potatoes, and gives plenty of water, and clam-shells or bones. His hens weigh from 5 to 8 lbs., and the cocks 10 lbs. each.

Renovating an Orchard.—"Young Farmer," proposes to renovate an old orchard by spreading fine manure this winter, giving a shallow plowing in spring, and planting potatoes in every third furrow. When the potatoes are matured, he will turn in hogs enough to root out and eat the potatoes.

Powder for Insects.—"J. T. W," Voluntown, Conn., does not trouble himself about the Persian or any other insect powder, but uses *gun*powder to repel the raiders. Early in the morning, when the tent-caterpillars are all in camp, he takes a gun charged with powder only and at a short range—two or three feet—he lets drive at the enemy which is reported as "killed, wounded and missing" without injury to the tree. Boys! stop shooting harmless and useful robins and try caterpillars.

Heeling in Fruit Trees.—"W. K," Decatur, [illegible] If properly heeled in, trees will keep perfectly well. It is practised when trees are received before the planter is ready to set them, or whenever it is necessary to keep them out of the ground for a greater or less time. Persons in regions subject to heavy winds prefer to get their trees in the fall, keep them heeled in through the winter, and set at the earliest practicable time in the spring.

New Tree Protector.—F. Roys & Co., East Berlin, Conn., have sent us samples of tree protectors which will doubtless prevent the attacks of mice and rabbits. They are of various sizes, and made of sheet iron in the same way as a stove pipe, except that the turned over portion which holds the edges together is not fastened, but may be locked or unlocked at pleasure. They are coated with some kind of cheap paint and if properly cared for will last several years. Cost about $7 per 100.

What Apples for Ohio.—"M. C. A.," of Ansonia, State not given, but probably Ohio, wishes to know what four kinds of late keeping apples to plant. The choice will depend much upon where the fruit is to be marketed as well as local peculiarities only to be learned by the experience of others in the immediate neighborhood. The White Pippin, Wine Sap, Rambo, Yellow Bell Flower, and others do well in most parts of Ohio.

A Hardy Hedge.—O. K. Wilmouth, Kent Co., Mich. The Norway Spruce is perfectly hardy, quick-growing, and bears cutting well. The Hemlock hedge referred to was probably the Arbor Vitæ, commonly known in your State as White Cedar. It is very abundant in some parts of Michigan, and young tree taken from the woods do well. The Norway Spruce is the best of the two.

Osage Orange Seed.—B. Leone, Lee Co., Ind. The tree grows most abundantly in Eastern Texas and along the Red River, in portions not yet occupied by our forces. One going to Matamoras for the seed would be quite as far off, in point of time at least, as Indiana. The common name of the tree in Texas is "Bodock" which is a corruption of *Bois d'arc* a term which was applied to it by the French settlers, meaning bow-wood. It is never called Mezquit in Texas, that name applying to a different tree, one much resembling the Honey Locust.

Plants Described.—W. T. Grimes, Gallatin Co., Ill. It is usually difficult to recognize flowers from descriptions, unless they are accurate botanical ones. We will try the seeds sent, and would like some bulbs of the lily-like plant.

A Plant for the Shade.—J. M. Geist, Lancaster, Co., Pa., wishes a plant to grow in the shade where grass will not form a turf. Try the common Periwinkle, (*Vinca minor*,) often and improperly called "Myrtle." This spreads quite rapidly and makes a tolerably dense covering of green.

Plant for a Name.—J. W. Smith, Decatur Co., Ind. The leaf is apparently that of the Carrion Flower, *Smilax herbacea*, a native and a troublesome plant, which should be eradicated wherever it occurs. The greenish flowers appear in June and give out a most disagreeable stench.

Tuberoses.—"Inquirer." It is customary to buy imported bulbs, as our season is not long enough to perfect them. Offsets are to be broken from the old imported bulbs before planting. It is said that offsets formed during the summer will bloom after three years cultivation.—We have not tried it.

Book upon Green Houses.—Ph. Giles, Eden Gardens. W. C Leuchar's Green and Hot Houses is the only work specially devoted to the subject. It treats of the construction, warming and ventilation of plant structures. Sent by mail on receipt of $1.25. We know no work which gives directions for the building of houses and the treatment of plants. McMahon's American gardener, price $2.50 gives the details of the management of green-house plants.

Flower Seeds for Rhode Island Children.—The "Rhode Island Society for Encouragement of Domestic Industry," has undertaken to give, so far as possible, some flower seeds to all the children attending public schools, and to this end solicits contributions of flower seeds, to be sent to their rooms, Railroad Hall, Providence R. I. The object is most worthy. Children all *love* flowers and this love, if cultivated, will bloom in refined tastes and give happiness in after-life.

Seed Catalogue.—That of J. M. Thorburn & Co. of 15 John St. N. Y. is the first one of these interesting annuals that has reached us. Upon looking it over we find that it includes the new as well as the old and proved varieties of garden, field, fruit, and other seeds.—One new feature is worthy of special commendation, namely, a table calling to mind the various vegetable seeds to be sown in each month. The Catalogue is sent by mail on application.

Skaneateles (N. Y.) Farmers' Club.—Officers elected Jan. 2d, for one year: *Pres't*, Dor Austen; *Vice Presidents*, Alford Lamb, Christopher C. Wyckoff; *Recording Secretary*, Chancey B. Thorn; *Corresponding Secretary*, William R. Willets; *Treasurer*, William J. Townsend; *Directors*, Wills Clift, George Austin; *Directors holding over*, Squire M. Brown, William E. Clark, John Davey, Jacob H. Allen.

Treatment of Bee Stings.—Many persons suffer so little from bee-stings, that they fear them no more than mosquito bites, and this is usually the case with our most successful apiarians. Others (like the writer) suffer severely; the slightest sting produces large swelling and great pain. On this subject, W. N. Côte, the Paris correspondent of the Medical and Surgical Reporter, writes: "The organ with which bees inflict their sting consists of two barbed, or rather, serrated darts issuing from a sheath and placed back to back, so as to leave a groove between them. The sheath is encased in nine cartilaginous scales provided with muscles, eight of which perform the duty of pushing the weapon out, while he ninth draws it back. To increase the pain caused by the mechanical action of the dart, a poison is secreted from two bladders situated on both sides of the intestines—and it is this poison which causes the formation of a small pimple of an erysipelatous redness. This generally disappears in a few instants, but, sometimes, when several stings have been inflicted at a time, or when even a single one has injured a nervous filament, the inflammation is rather severe. In such cases, Dr. Latour proposes the following treatment: 1. To pull out the sting, which generally remains in the wound. 2. To bathe the place with ice water, or else acetate of lead, or ammonia. 3. To apply an impenetrable coating of collodion, rendered elastic by the addition of one tenth part of castor oil, whereby the production of heat in the living tissue is prevented and inflammation avoided."

Riddance of Rats and other vermin may be secured by the use of the Phosphoric Paste. It is a slow poison and sure. After eating it the rats leave the premises to die; they seldom die about the house.

Railroad and Steamboat Disasters. The number of serious accidents on railroads last year, in the United States, is reported at 953, of which 264 resulted in death and 671 in wounds. This does not include accidents to individuals caused by their own carelessness or design, or deaths and injuries resulting from the recklessness of persons in crossing or standing upon railroad tracks when trains were in motion.—The *total* number of casualities by *steamboat* accidents during the year was 340, by which 255 persons were killed and 85 wounded.—These figures look large, but can anybody estimate how much larger would have been the number of casualties, had all these persons travelled the same distances, drawn by horses in stage coaches, over common roads? Stage accidents occur one by one, and create no general sensation, and a summary is never published. There is no doubt that railway travelling is by far the safest mode in existence, even with its great rapidity. The road is smoother, and the "horses" not self-willed, but under the control of the driver—if he is sober.

War Maps.—We have received from H. H. Lloyd & Co., several very good maps, among them one which shows at a glance, and in an interesting form, the progress of the war, the original and the present territory occupied by the rebels, the battle fields, etc. For particulars, see advertisement. Note that this is H. H. Lloyd & Co., 81 John-st.—a prompt and responsible House, we have every reason to believe.

Lamps without Chimneys.—We have tried and liked, and then disliked, so many varieties of lamps for burning carbon or coal oil without a glass chimney, that we are afraid to say a word in favor of any of them. The best one we have seen, thus far, is Hutchinson's. It works very fairly. A perfect lamp for burning the economical coal oils now so generally used, if cheaply made, would bring a fortune to the inventor.

Black Currants for Wine.—"Young Farmer," Shelly, N. Y., asks if it will pay to cultivate the black currant for "wine." We never knew so called wine to be made from this species. Perhaps others have. See last April number for article on Tobacco, or the Tobacco Essays advertised elswhere.

"Sambuci Wine"—E. S. Collamer, D. C. This is a mongrel name, part Latin and part English. *Sambucus* is the Botanical name of the Elder genus and is derived from the Greek name of an ancient musical instrument supposed to be made from Elder-wood. There is no such grape as the Sambucus grape. We have no knowledge of the wine in question except from the circulars of the makers who, if we recollect rightly, claim to have imported the European Elder for the purpose of making it. This Elder, the juice of the fruit of which is much like that of our Elder-berry, is largely used to adulterate port wine—indeed all *red* port is colored with it. This with other fruit juices will furnish an alcholic liquor which passes for wine with those who know no better.

The "Wine Plant."—Beware.—It is necessary to again caution the public against the operations of a class of speculators, who are swarming through the country, carrying samples of "wine" and selling Rhubarb or Pie-plant roots at enormous prices, claiming that these roots will, in a single season, produce several thousand dollars worth of "wine" to the acre. A species of alcoholic liquor can be produced from almost every known plant, by fermenting with the addition of sugar. The juices of the Rhubarb stems can be used, and with proper manipulation, make a passable liquor, flavored somewhat by the plant, or, "as you like" by the addition of drugs. But it is sheer humbug to claim that a valuable high flavored "wine" can be produced directly

from the Rhubarb. Nor can a liquor be made which *responsible* parties will positively contract for in large quantity at $2 per gallon, or even much lower figures. Some of the speculators may *offer* to take a little, in order to sell their roots. They are buying up all the Linnæus Rhubarb plants in the country, if they have not already done so, at various prices, from $1 50 to $3 per barrel—latterly at $10—and at $18 to $50 per 1000 roots, and then working them off as "wine plants," at $250 to $400 per 1000! It takes good strong roots until the second season after planting, to produce a fair crop of stems. If picked at all the first season, the roots will be worth little the next year.—A dozen Rhubarb roots in the garden are valuable to yield early pie material—but as a "wine plant" they are of little account.

"My Cows Shrunk their Milk from eating either oat-straw, or acorns. Neighbor A. says, straw. Neighbor B. says acorns. Which was it?"—If cows in full milk were changed from good feed to oat-straw alone, A. is right. If they were well fed and oat-straw constituted a part of their feed, previously, and the the acorns were extra, then B.'s theory is correct.

Bad Habits in Horses.—Revillo Rice, Oswego Co., N. Y., informs the readers of the *Agriculturist*, that after many years of observation, and having examined numerous horses affected with the habit of hanging their tongues out, he has invariably found, that such horses carried their tongues *over* the bit. He has therefore contrived a "reverse-curved bit,"—one with a large ∩ bend in it. *While* this is used, the tongue *must* be kept below the bit. The inquiry of "M. B. P.," last month, page 5, is thus answered.

Cattle Breeders' Convention.—The 6th Annual Meeting of the *Cattle Breeders' Association*, referred to last month, page 17, takes place at Worcester, Mass., on the first Wednesday in March next.

Ticks on Sheep and Lambs.—The time to rid a flock of ticks is about two or three weeks after shearing—at which period the ticks *all* leave the old sheep and go upon the longer-fleeced lambs. Then dip the lambs in strong tobacco-water, using tobacco stems from the segar makers. At this time of year use mercurial ointment (unguentum) mixed thoroughly with four or five times its weight of lard. Open the fleece and rub the unguentum upon the skin, in lines down the back, around the neck, and around the belly. This ought not to be done in cold raw weather.

Wool Growers in Nebraska.—At a meeting of wool-growers at Omaha City, N. T., a committee was appointed to draft a bill to be reported to the Legislature for the benefit and protection of those engaged in the business in Douglass and other counties. Another committee was appointed to prepare and publish an address on wool-growing in Nebraska.

Plaster near Salt Water.—The general experience seems to be, that in the vicinity of salt water, plaster (sulphate of lime, or gypsum) is not particularly valuable applied by itself. It is useful in the stable and in manure making. We shall be happy to receive reports of experiments with plaster on grain, hoed, or forage crops (grass), within 5 miles of the ocean.

Good Barley.—Robt. Powers of Ozaukee Co., Wis., reports the crop of a neighbor of his at 80 bushels per acre. Two bushels of seed were sown; land a black sandy loam, well plowed in fall; seed harrowed in, in spring. He estimates 15 bushels lost by the grain lodging badly, and thinks sowing 4 bushels per acre, as reported by Mr. Watkins, page 302, Dec. *Agriculturist*, is altogether too much. Land differs very much in this respect, strong soil requires fewer seeds.

Dwarf Broom Corn.—Mary A. Withington, Medina Co., O., writes that the brush of this variety makes superior brooms, and that it brings a high price in the market. We have had numerous applications for seed, but do not know where it can be obtained. Those who have it for sale should advertise it.

Keeping Bees in Houses.—J. J. Pruden, Morris Co., N. J. writes to the *American Agriculturist* that he has kept bees for 25 years, and experimented to ascertain the best method for placing the hives.—He found it a good plan in winter to cover each hive with an outside box, the front of the box being left open to the sun. This obviates the necessity of moving the hives to and from winter quarters in a shed or bee house. He thinks now of housing his bees summer and winter. He has kept two hives in his dwelling during two years past, and found them more prosperous than colonies of equal or superior strength out of doors. Mr. Quinby says in regard to the proposed change, that one or two, or even half a dozen such experiments will not justify the expense of putting up a large building for bees. The loss of queens by mistaking their hives when returning from meeting the drones, would more than counterbalance profits, unless raising queens artificially were resorted to, which few bee-keepers are competent to manage. The plan can not be recommended until at least five years, successful experience has demonstrated its value.

Hungarian Grass and Millet are not the same thing, though botanically of the same species, (*Setaria Italica*). One bears about the same relation to the other, that the little dwarf pop-corn does to the great horse-tooth corn of the West.

Rye Grass.—Charles Juzi, Mason County, Ill. The seed of this grass may be had of the dealers in this city. It may be well to experiment with it, but we fear that it would not stand the drouth any better than timothy. We would also try a mixture of clover and orchard grass.

Cotton in Missouri.—G. C. Spence, sends a sample of good cotton from south-eastern Missouri. In the absence of factories it is worked up by hand in families, who find that the product of half an acre is as much as they can take care of.

Colonization of the South.—A highly important movement has recently been set on foot in New-York City, having for its object the settlement of unoccupied or sparsely inhabited tracts in the Southern States. The plan has been organized under the direction of Mr. Eli Thayer, whose large experience in similar undertakings gives promise of success. It is designed to encourage and assist, but not direct emigration. Persons proposing to locate in the region referred to, may obtain at the central office here, by letter or personally, valuable information concerning the most inviting districts, and they may then emigrate singly or may join colonies to be formed, and share in the advantages of association. Mr. Thayer's headquarters are 239 Broadway.

Vineland Lands.—In the *Agriculturist* for last May, we published an account of a hurried visit to Vineland. Some have complained that our observations were too brief to admit of the formation of a correct estimate of the real value of the land. We made a plain statement of the time spent there, and the grounds for the opinion expressed. To avoid all appearance of any unwarrantable prejudice against the Vineland Enterprise, we admit upon page 63, as an advertisement, the account of Mr. Robinson, who has twice visited the locality, and whose opportunities of judging have, of course, been greater than our own. If possible, we shall, during the coming summer, take occasion to further examine not only Vineland, but other tracts of land in New-Jersey, which have long lain unoccupied, but are now being brought prominently before the public.

A Good Yield from an Acre.—P. Cooper, Lancaster Co., Pa., divided an acre of ground into 48 rows; gave no extra manuring; and kept the soil well worked and free from weeds. Here are his returns:

17 rows Sorghum, 60 gallons Molasses, 80c	$48 00
1 row Pickles, Beans, and Melons	6 00
5 rows Cabbage, 650 heads	30 00
13 rows Sweet Potatoes, 50 bushels	40 00
5 rows Early Boiling Corn	6 00
7 rows Early Mercer Potatoes	10 00
Turnips, 30 bushels on margin	7 50
Total	$147 50

The Agricultural College of Pennsylvania.—The fifth annual catalogue of the officers and students of this Institution has been issued. It contains a lithograph of the college building, just completed. The building is 334 feet long, extends back 80 feet on the wings, 130 feet in the central portion of the building, and is six stories high. Notwithstanding the invasion of the State by the rebel army, and other causes of disturbance, the success of the college during the last year has been very satisfactory. During the year 142 students and resident graduates have been in attendance. The Institution is managed by 12 Professors, Assistants and Superintendents, acting under a board of Trustees elected tri-annually by Delegates sent from the County Ag'l Societies of the State. The catalogue gives the grades of all the students in their studies, and in their work upon the college farm, garden and nursery. The course of study extends through four years, and a fifth year is added for resident graduates who wish to devote themselves to scientific investigations. A Primary department has also been established for students not sufficiently advanced to enter the college course. The regular course for studies embraces thorough instructions in all the natural sciences, especially those relating to agriculture. The Pennsylvania Legislature at its last session bestowed the proceeds of the Congressional Land Grant upon the college. The session for 1864 will open on the 24th of February, and continue 10 months. Persons wishing further particulars should address the President, Dr. Pugh, Agricultural College, Centre Co., Pa.

Agricultural College Lands.—A bill has been introduced into the U. S. Senate, by Mr. Hendricks, of Indiana, "To extend the time in which States may accept lands granted by the United States for Agricultural Colleges." The Indiana Legislature does not meet until January 1865, and the object of the bill is to enable that State to secure her portion, 390,000 acres.

A Good School.—Though unsolicited, we take pleasure in calling attention to the announcement of the Fort Edward Institute, given in the advertising columns. The character of the school, and its advantages are there set forth, in part. The alphabet seated J, and K, side by side through our college course, and we know Dr. King "like a book." *What he has charge of, will not be poorly done.* Those who have sons and daughters to send away to school, will do well to apply for the Fort Edward Catalogue.

Trees from Nurseries.—S. A. Matthews, Champaign Co., Ohio. We should not hesitate to take trees from a nursery situated further north than the place where they are to be planted, always provided that the trees have been well cultivated, and have good roots.

When can Trees be Cut down and not Sprout?—Some trees will sprout if cut down at any time. Usually they are less likely to sprout if cut during the growing season, than at any other time. The most fatal time is just after the leaves are well developed.

Injury to Trees by Ice.—The trees around Boston, Mass., were completely encased in ice on the 17th of Dec. last, and so great was the weight of the accumulations, that a great number of trees, especially elms, were entirely ruined. In some cases every limb was torn from the tree. A limb with the ice on was found to weigh fifteen pounds. After thawing off the ice the weight was less than two pounds.

White Maple Seed.—Thomas Bell, Jo Davies Co., Ill.—In December Basket this was inadvertantly included among the seeds to be preserved in sand. It is one of the most difficult to keep; is ripe in May, and should be gathered and planted in moist soil at once.

Stump Machines.—W. H. Deane, C. W. We know of no stump machine worked by steam. Have sent your letter to agent of horse-power machines We have seen sulphuric acid tried for destroying the stumps without any appreciable effect.

Farm Wagon Philosophy—Query.—Which is easier for the team, a spring wagon or one without springs, load and other things being equal? *Another Query.*—Which are easier, iron axles or wooden ones, other things being equal?

Strawberry—Note to Inquirers.—The variety now called the "Agriculturist Strawberry" is hermaphrodite or perfect, requiring no other variety to fertilize it.

Planting Strawberries.—Benj. F. Morrison. Three feet apart is too great a distance for the rows unless it is intended to work between them with a horse-hoe. A more economical use of the land would be to put the rows 18 inches apart, with alleys 3 feet wide between every four rows, and cultivate with the hoe. Hill culture is best whether the ground is weedy or not.

Grape Queries.—Dr. A. Szendery, Huron Co., O., and others. Six feet apart in the row will do for Delawares, with rows as far apart as the trellises will be high. Brackett's seedling is regarded as a promising variety and worthy of trial. The Iona will succeed wherever the Catawba will. The Alvey is a small black grape, said to make good wine, but for the table it is not to be compared with the Delaware and many others....."J. W. J.," Low Point, Ill. *All* varieties of grapes will not succeed where wild grapes grow. The Delaware, Clinton, Concord, and Hartford Prolific are the hardiest of the approved varieties. ....Samuel Godshall, Trumbull Co., O. Rooted layers may be removed in spring or fall, as most convenient. Coal ashes will answer to render heavy soils less compact. Their value as a fertilizer depends mainly upon the ashes from the wood or charcoal used in kindling...."G. W.," Bloomingdale, N. J., sends us his plan for training a vine around the trunk of a tree. While some graceful climbers may grow there with good

effect. a systematically trimmed grape vine would look stiff and out of taste. Besides, we cannot see how the roots of both vine and tree are to occupy the same soil, and maintain a healthy growth.

Wizard of the North.—Mrs. L. M. Chapman, of Allen Co., O. This strawberry is valued by some and discarded by others. It is said that there are spurious plants in the market, and that these have injured the reputation of the fruit. Some good judges think it valuable.

The Purple Fringe Tree.—R. D. McKee, Taylor Co., Iowa. This, the *Rhus Cotinus*, is more generally called the Smoke Tree in this country, while in Europe it is known as the Venetian Sumach, and the Perriwig Tree. It is readily propagated by layers; a branch when pegged down and covered with a few inches of earth, soon strikes root. If there are no branches low enough for the purpose, the plant must be cut back to induce them to start near the root.

Whitewashing Fruit Trees.—"C. S.," Laporte, Ind. We do not approve of whitewashing trees at any season. Soft soap, thin enough to apply readily, is far better to remove moss, scale, etc. Put it on early in spring during a damp time. The crooked limb probably cannot be straightened by slitting the bark.

A New Implement.—W. B. Waldo, Dutchess Co., N. Y. suggests a new implement, to be made in the form of a common iron scoop shovel slitted. He says it should be made of the best steel, the tines ¼ inch apart, beveled on the under side. It would be useful to clear ground of small stones, to collect pebbles for walks or other purposes, to separate cobs from corn after threshing, or for any similar purpose. There is an instrument somewhat after this fashion on sale but not made of steel, being merely an iron scoop with openings cut through. Mr. Waldo's plan would be an improvement.

Hawthorn Hedges.—G. W. Thompson, writes that he has had ten years' experience with these, and though at the latitude of 40° 50' they stand extremes of temperature, he considers them a nuisance on account of their harboring slugs which pass from the thorn to pears, cherries and roses, and commit their depredations.

Shucking Black Walnuts.—Boys will be glad to learn G. F. P.'s method of doing this. He bores a 1¼ inch hole in a bench, placing a basket under it; then the nuts are put over the hole with the left hand and driven through it with a wooden mallet held in the right. In this way the husk is removed very rapidly, and without staining the hands.

Lucerne.—"J. M.," Lynnfield Centre, Mass. This is a valuable forage plant where it will succeed. Accurate experiments are wanting to determine whether it will endure the winters of New England. It needs a good, mellow, and very deep soil, as its roots penetrate to a great depth, and stand the drouth well. It may be sown in the same way as clover, using a third more seed. In England it is cultivated in drills 12 or 15 inches apart, using 10 to 16 lbs. of seed to the acre. After the first year the crop may be cut several times during the season.

Growing Lentils.—C. A. Dietrich, Washington Co., Pa. These are usually sown in drills, and are said to do best in a light sandy soil.

Crows Among the Sweet Corn.—O. Longworth, Wright Co., Minn., having lost part of his seed sweet corn by the crows, preserved what was left by wrapping the ears with pieces of newspaper which he tied on with thread. It should not be tied too tightly if the corn is young. The experiment having been successful on two occasions, he desires it to be tried by others.

Quails and the Chinch Bug.—The Randolph Co., (Ill.) Agricultural Society at a recent meeting resolved to unite with other County Societies in memorializing the next Legislature to pass a law for the better protection of quails, because of their valuable services in destroying the chinch bug, the greatest insect pest at the West.

Large Turnips.—Some very large turnips were raised on Long Island last autumn, one on our table a few weeks since, fair and round, weighed 10¼ lbs. Howard A. Collins (gardener,) of Brooklyn, reports one weighing 12 pounds.

Transplanting Boxes.—"J. T.," Greenfield, Mass., wishes to know of some contrivance with a movable bottom in which tomatoes can be grown to large plants, and then set in the ground without disturbing the roots, and the box removed by taking away the bottom and slipping the box up over the plant. He proposes to use tin cans for this purpose. Plants would doubtless grow in these if there was provision for drainage. We have seen a contrivance for this purpose, but do not know whether it was patented or not—a square wooden box with the sides inclining toward the top, and a movable bottom. We can not see any advantage it has over a common flower pot, from which a plant can be slipped without its feeling the disturbance.

Sweet Alyssum, etc.—Mrs. S. F. S., Fairfield, O. Gilia tricolor, Purple Candytuft, Whitlavia grandiflora, and the Long-tubed Centranthus are all about the same in height and duration as the Alyssum, and will make a good contrast with it.

Cultivation of Saffron.—F. F. Fenn, Summit Co., Ohio. This is more properly called Safflower. It grows best in light dry soils. The seed is sown in drills which are two feet apart, and the plants thinned to six inches. The seed can be had at the large seed stores. We can give no accounts of the profits of the crop. The great bulk of that used by dyers is imported.

The Laurestinus.—Mrs. M. T. Clarke, (no address.) This does not require any especial care. A good loam, with a little well rotted manure, and plenty of pot room are required. Water freely and give the leaves an occasional washing. When set out of doors in summer it should be in a partial shade.

The Currant Borer.—"C. S.," Laporte, Ind., sends a specimen of this grub which destroys the pith of the stem, and either kills the bush or renders it very sickly. The borer is the larva of a moth called *Ægeria tipuliformis*. The perfect insect is about ¾ of an inch across when the wings are expanded; the wings are of a blue black color, transparent, fringed with black, the front pair with a broad band which is more or less tinged with copper color. The moth appears in June, and lays its eggs near the buds, the young grub soon eating its way to the interior of the stem. From their position, the grubs can not be reached by any application. The only remedy we can suggest is, to cut off the affected twigs and burn them, and to try trapping the moths at the time they lay their eggs.

Cockroaches.—O. B., Jr., says may be effectually destroyed by blowing camomile flowers dried and powdered, into their crevices, by means of a common bellows having a hopper of tin so attached to the nozzle that the powder will be carried along by the blast.

Heating a Conservatory.—"Constant Reader," has a conservatory heated only by the warm air from the sitting room, and wishes to know how to increase the temperature in cold weather. A "water back" might be put in the sitting room grate with pipes leading into the plant room, but this would involve considerable expense. There are numerous gas stoves and also heating arrangements where kerosene is used. Either of these would answer, *provided* there were means for carrying off the products of combustion, which might be effected by a small pipe running through a piece of tin inserted in place of a pane of glass. Heating arrangements of this kind where the gases produced by combustion remain in the room, will soon injure the plants.

A Temperature Alarm.—Mr. R. A. Boyle, of Detroit, Mich., has shown us an ingenious contrivance for alarming the person in charge of a propagating house when the temperature reaches above or below the desired point. By the expansion of mercury in a thermometer bulb, a wire index is made to rise and fall along a graduated scale. Two moveable metallic slides may be set at the proper points upon the scale. When the temperature is so high or so low as to bring the index in contact with either slide, an electric current from a small battery sets an alarm bell in motion, and calls the attention of the gardener, or wakes him if asleep.

Mr. Lane's Purchasing Agency.—A few words will serve as an answer to a large number of letters of inquiry. Ever since the *Agriculturist* started in 1842, its readers, scattered as they are all over the country, have been accustomed to apply to the editors for information, and for purchase of various implements, trees, plants, stock, etc., at this central point. (It was from an attempt to gratify these numerous requests, we believe, that first sprang the now immense agricultural warehouse and manufactory of the Allens.) Two or three years ago these calls upon our time became so great that we could not personally attend to them, and did not wish to, as we prefer to do no business outside of the paper, to the end that we may be independent of all pecuniary interests, and thus be and feel impartial in our editorial labors. Knowing that Prof. Lane contemplated retiring from his college professorship, to which he had devoted twenty years that he was efficient as a business officer of the college, and that he had in earlier life been engaged both in farming and commercial pursuits, we suggested his opening a purchasing agency. He did so, and since then we have handed directly to him all letters pertaining to matters outside of our own business. His business is entirely independent of this office, and we seldom know any thing concerning his operations, except to answer some query or to hand him letters of inquiry. As noted in his advertisement, he attends to the supplying of any thing and every thing desired to be purchased, and we believe intends to do it well.

Where can I get it?—We might fill a large portion of the "basket" with replies of where this or that thing can be procured. This information would generally be of use to but one person, and it would not be pleasant reading to others. Bear in mind that general dealers usually have everything in their line that is in the market. If seeds, trees, plants or implements are wanted, send to some of those who advertise in our columns, for their catalogues, or order direct. Reliable purchasing agencies are advertised in the *Agriculturist*, which may be employed with advantage by those at a distance.

Dominique Fowls.—"How shall I know the pure Dominiques? I have been presented with some. They are grey, tall, and rather leggy; also, how many hens do you consider sufficient for one cock? E. S., Staten Island."—Fowls of this breed are of compact form, very active, have a very long and strong flight. They have a sort of Dorking style, with long legs, and slaty grey (hawk colored) plumage, each feather being cross-barred more or less with slaty blue, giving a uniform speckled look to both cocks and hens; legs usually flesh-color; tail full feathered; 20 hens to one cock is enough.

A Spider by Mail, from Kineksville, Ky., was so crushed and dried that we could not identify it.

Berkshire Pigs are called for so frequently, that reliable breeders should advertise stock on hand.

Sweet Potato Plants.—A. T. Woodward, Rutland Co., Vt. The sprouts are best obtained from those who make it a business of starting them, and advertise them at the proper season.

Hydraulic Lime.—B. H. Martin, Del. This differs from the ordinary lime in containing a variable proportion of magnesia, alumina (clay,) and is usually colored with oxide of iron. It is valuable for its property of hardening under water.

Gunny Bags.—B. H. Martin, Del. These are coarse bags made from jute, the fibre of a species of *Corchorus*, which grows in India. Both the bags and the cloth are imported. They serve for packing dye woods, saltpetre, and various coarse articles. The imports of bags and cloth into the United States in 1858, amounted to about a million and a half dollars.

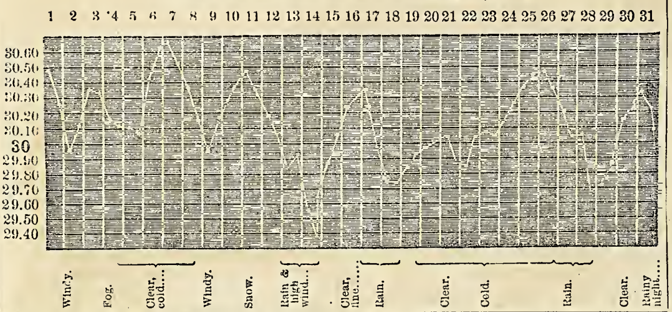
Leaky Roofs.—M. A. Genung, Licking Co., O., advises to mix two parts of coarse sand with one of paint skins, in making the mixture for stopping leaks in roofs as described in January *Agriculturist*, page 5.

Keeping Cider Sweet.—James Dilts, Muskingum Co., O., gives the following directions: Heat cider until it boils, then pour into a jug or other suitable glass or earthen vessel, which should previously be heated to prevent cracking. Cork tight and seal immediately with cement, the same as in putting up fruits. It will keep unchanged for years.

500 Universal Clothes Wringers have been presented by the Proprietors (347 Broadway, New-York,) to the U. S. Sanitary Commission, to be sold at the Great Fairs of New-York and Brooklyn, held for the benefit of this most useful Society. The Commission is receiving many valuable presents, but few of more practically useful articles than these. They are of the $7 size, and will sell so readily that this gift is almost equivalent to $3.500 in money.

What isn't Coffee.—A correspondent, "W. C. M.," agrees with the opinion heretofore expressed in the *American Agriculturist*, that no beverage except that made from grapes, should be called wine, and desires that a similar rule be applied to coffee. He says peas, beans, chicory, dandelion roots, etc., burned and artfully mixed, may make good medicine, but they do not yield coffee. He should have proposed a name for the substitutes. How would the term "Mockoffee" answer?

RECORD OF THE BAROMETER FOR DECEMBER, 1863.



EXPLANATIONS.—The perpendicular spaces represent the days of the month; the horizontal spaces indicate *tenths* of an inch as figured on the left. The hight of the mercury at 7 in the morning and 9 in the evening of each day is shown by the cots in the zigzag line. The general state of the weather is given underneath. It will be seen that both rain and high wind (usually a N. E. wind here) are foreshown by a rise of the mercury, which falls during the stormy weather. Several attentive correspondents send us their observations, which we regret not to have room for.

New York Live Stock Trade for 1863.

Below we present some carefully prepared and interesting figures, made up from the weekly records kept in the office of the *Agriculturist* by our own experienced reporter, who has for many years visited the live-stock yards during the sales-days of each week. (These tables we have already furnished to some other journals and they are being widely published, but we place them here in permanent form for examination and future reference.)

RECEIPTS OF LIVE ANIMALS FOR 1863.

Week ending.	Beef Cattle.	Net Price.	Milch Cows	Veal Calv's	Sheep & L'bs.	Live Hogs.
Jan. 6	3,542	7¾	76	336	4,797	39,997
Jan. 13	4,653	8	110	291	7,526	40,185
Jan. 20	4,127	8½	72	315	6,149	[illegible]5,424
Jan. 27	4,027	8¾	135	351	6,880	22,827
Feb. 3	4,640	9	104	348	5,305	21,040
Feb. 10	5,989	8½	120	326	5,134	22,271
Feb. 17	5,275	8½	123	366	8,534	21,096
Feb. 24	4,029	8¾	127	167	6,091	21,692
March 3	5,223	8½	154	469	5,780	19,984
March 10	3,733	8¾	164	451	5,462	13,691
March 17	4,546	9¼	137	458	6,449	17,400
March 24	4,084	10	177	431	6,872	12,356
March 31	4,583	10½	211	785	4,382	11,986
April 7	4,811	10½	391	1,230	6,502	17,276
April 14	4,962	10¼	213	695	4,928	12,915
April 21	4,245	10¾	126	623	4,459	11,400
April 28	4,903	10¼	122	634	2,412	14,925
May 5	3,837	10½	112	813	5,362	8,802
May 12	4,309	11	106	832	6,214	11,633
May 19	3,906	11½	117	671	5,283	9,006
May 26	4,686	11	105	1,179	3,479	9,270
June 2	5,403	10¾	155	1,251	8,162	11,270
June 9	4,686	10¾	190	1,254	7,638	10,505
June 16	4,570	10¾	100	682	7,967	11,121
June 23	4,537	10¾	140	1,168	9,503	11,437
June 30	4,589	10½	133	1,158	11,497	11,667
July 7	5,304	9½	126	1,465	11,213	10,460
July 14	3,388	10	88	948	9,888	6,500
July 21	5,213	10½	92	499	11,231	7,224
July 28	5,331	9½	119	609	11,347	11,300
Aug. 4	5,485	8½	107	1,005	11,783	9,750
Aug. 11	3,903	9½	132	737	9,695	7,175
Aug. 18	6,302	8¾	113	580	13,489	11,310
Aug. 25	4,657	9¼	144	718	14,947	8,490
Sept. 1	5,820	9½	113	628	12,854	6,543
Sept. 8	5,194	9½	119	643	18,685	9,830
Sept. 15	7,007	9¼	106	903	17,075	13,160
Sept. 22	5,775	9¼	81	786	12,352	18,862
Sept. 29	7,051	9	105	694	18,132	20,244
Oct. 6	6,581	8	162	885	14,048	21,229
Oct. 13	5,547	8½	102	657	16,221	22,465
Oct. 20	7,291	7¾	111	814	15,923	31,939
Oct. 27	4,976	8½	100	947	17,952	36,622
Nov. 3	6,065	8¾	116	1,079	16,751	53,258
Nov. 10	6,295	8¾	155	880	15,505	56,568
Nov. 17	6,496	8½	142	769	18,118	36,622
Nov. 24	5,179	8¾	144	650	10,618	86,908
Dec. 1	5,323	9	179	548	13,986	42,360
Dec. 8	5,592	9¼	129	545	18,413	50,976
Dec. 15	5,727	9¼	124	411	12,890	44,858
Dec. 22	5,910	9½	97	429	8,792	37,744
Dec. 29	3,922	9¾	49	161	7,586	15,703
Totals	263,229	9½	6,715	36,298	522,311	1,096,773
Weekly av.	5,062		129	698	10,044	21,092
1862.						
Totals	235,660	—	5,253	30,258	475,722	1,098,712
Weekly average	4,532	7¾	101	582	9,149	21,129
1861.						
Totals	226,023	—	5,816	33,383	57,352	593,509
Weekly average	4,265	7 4-5	110	630	9,950	11,292
1860.						
Totals	226,747	—	7,154	40,162	514,191	819,628
Weekly avetage	4,360	8 1-5	138	772	9,888	6,147

Total number of animals in 1863.................. **1,924,898**
Weekly average of all kinds in 1863............. **37,017**
Total receipts of animals of all kinds in 1862......**1,845,605**
Weekly average of all kinds........................ **35,492**
Total receipts of animals of all kinds in 1861.....**1,387,326**
Weekly average of all kinds........................ **26,176**
Total receipts of animals of all kinds in 1860....**1,107,882**
Weekly average of all kinds........................ **21,305**

These tables include all the animals sold at the regular live-stock markets. There are many irregular sales, from boats and barges, and from farmers direct to butchers, which about make up the number taken hence to supply neighboring cities, so that the above figures show just about the consumption hy this city and its immediate suburbs of Brooklyn and Jersey City. The prices given for beef are the weekly average wholesale prices of all the animals sold in that week, good, bad and indifferent. This orice is what the dressed four quarters are estimated to cost the butchers per pound, allowing the skin and offal to go for the expense of killing and dressing. The weekly supply of different animals, the total supply for each of four years, with other items, will be worth study.

NEW YORK CITY MEAT BILL FOR 1863.—Our weekly note book makes the average weight of all the beef cattle brought here, a trifle over 700 lbs. net. At 700 lbs. we have **184,260,300** pounds of beef. At 9½ cents this is $66½ per head. Veal Calves averaged $7¾; Sheep and Lambs $4¼ live hogs $9¾. We have, therefore:

263,229 Beef Cattle, at $66½ each $17,504,728.50
86,298 Veal Calves, at $7¼ each..............263,060.50
522 311 Sheep and Lambs, at $4¼ each......2,219,821.75
1,096,773 Live Hogs, at $9¾ each 10,693,586.75

or **$30,681,147** for beef, mutton and pork during 1863.

WHO FURNISHES OUR BEEF—Of the 209,941 beef cattle sold at the great 44th street yards, we have obtained and recorded the origin so far as could be ascertained each week, as follows:

From.	*No. of Cattle.*	*From.*	*No. of Cattle.*
Illinois	119,181	Canada	730
New York	28,921	Connecticut	513
Ohio	19,477	New-Jersey	194
Indiana	13,837	Wisconsin	82
Iowa	8,963	West-Virginia	35
Michigan	8,850	Massachusetts	49
Kentucky	6,709	Kansas	46
Missouri	1,504	Nebraska	30
Pennsylvania	763	Total	209,941

It will thus be seen *that more than half* of our beef is credited direct to the great grain and corn producing State of Illinois, while many of those coming last from States further east were originally from Illinois. What could we do without the railroads to bring them here?

Current New-York Wholesale Prices.

There are no specially noteworthy features in the agricultural markets. The two columns of prices below, indicate the state of the supply and demand. The rise in gold just now, carries up the prices of exportable breadstuffs, and there is also a little better foreign demand. Oats are much called for by the government and are well up. Wool is not in large supply and is firmly held at full prices. Hay and Hops are in good request at firm rates. Hog products are active in request and advancing.

CURRENT WHOLESALE PRICES.

	December 18.	January 16.
FLOUR—Super to Extra State	$6 10 @ 6 90	$6 50 @ 7 25
Super. to Extra Southern	7 60 @11 00	7 65 @11 00
Extra Western	7 00 @11 50	7 00 @11 50
Extra Genesee	6 90 @ 9 25	7 30 @ 9 25
Superfine Western	6 10 @ 6 30	6 60 @ 6 70
RYE FLOUR	5 75 @ 7 00	5 60 @ 6 70
CORN MEAL	5 70 @ 6 15	5 30 @ 6 20
WHEAT—All kinds of White	1 65 @ 1 85	1 68 @ 1 88
All kinds of Red	1 43 @ 1 63	1 48 @ 1 68
CORN—Yellow	1 32½@	1 22 @ 1 28
Mixed	1 32 @ 1 33	1 26 @ 1 27
OATS—Western	91 @ 92	93 @ 93½
State	90 @ 90½	91 @ 93
RYE	1 25 @ 1 34	1 28 @ 1 35
BARLEY	1 35 @ 1 55	1 30 @ 1 50
COTTON—Middlings, per lb	82 @ —	82 @
HOPS, crop of 1863, per lb	20 @ 30	24 @ 33
FEATHERS, Live Geese, p. lb.	62½@ 65	63 @ 65
SEED—Clover, per lb	11 @ 11½	12½@ 13½
Timothy, per bushel	2 50 @ 2 85	2 50 @ 3 00
FLAX, per bushel	3 15 @ 3 25	3 10 @ 3 30
SUGAR—Brown, per lb	11½@ 14½	11¼@ 14½
MOLASSES, New-Orleans, p.gl.	55 @ 70	60 @ 70
COFFEE, Rio, per lb	33 @ 35	32½@ 33½
TOBACCO—Kentucky, &c, p. lb.	10 @ 30	14 @ 32
Seed Leaf, per lb	15 @ 55	15 @ 50
WOOL—Domestic fleece, p. lb.	70 @ 85	72 @ 85
Domestic, pulled, per lb	65 @ 80	62½@ 78
Wool, California, unwashed	25 @ 57½	25 @ 55
TALLOW, per lb	11¾@ 12⅜	12¼@ 12½
OIL CAKE, per tun	47 00 @52 50	46 50 @52 00
PORK—Mess, per bbl	18 25 @18 50	19 25 @23 50
Prime, per bbl	12 50 @13 00	15 25 @16 50
BEEF—Plain mess	12 00 @13 75	12 50 @14 50
LARD, in bbls., per lb	11¾@ 12¼	12 @ 13
BUTTER—Western, per lb	20 @ 26	22 @ 28
State, per lb	26 @ 32	27 @ 33
CHEESE	12 @ 16	13 @ 16
BEANS—per bushel	2 50 @ 3 00	2 50 @ 2 90
Broom Corn—per lb	8 @ 10	8 @ 10
EGGS—Fresh, per dozen	22 @ 27	31 @ 32
Eggs, Limed, per doz	20 @ 21	24 @ 26
POULTRY—Fowls, per lb	8 @ 11	8 @ 11
Ducks, per lb	8 @ 12	8 @ 14
Geese, per lb	7 @ 10	6 @ 9
Turkeys, per lb	8 @ 12	10 @ 16
POTATOES—Mercers, p. bbl.	2 25 @ 2 75	2 25 @ 2 75
Buckeyes per bbl	1 50 @ 1 62	1 62 @ 1 75
Peach Blow, per bbl	1 87 @ 2 00	2 00 @ 2 25
Nova Scotia, per bushel	50 @ 55	50 @ 60
TURNIPS—Ruta baga, per bbl	1 13 @ 1 25	@ 1 50
ONIONS, Red & Yellow p. bbl.	4 50 @ 5 00	5 50 @ 6 00
CABBAGES, per 100	6 00 @10 00	8 00 @11 00
DRIED APPLES, per lb	5 @ 9	9 @ 10
DRIED PEACHES, per lb	24 @ 26	24 @ 25
DRIED RASPBERRIES, per lb.	24 @ 25	23 @ 24
APPLES, choice, per bbl	3 50 @ 4 00	3 50 @ 5 00
Apples, mixed lots, per bbl.	2 50 @ 3 00	2 50 @ 3 00
CRANBERRIES, per bbl	8 00 @10 00	8 00 @ 8 30
PIGEONS, Wild, per doz	90 @ 1 25	90 @ 1 25
PRAIRIE CHICKENS, per pair.	—	30 @ 55

Review of the Breadstuff Markets.

Below are Ten very condensed and convenient tables, the first two referring to the transactions in the New York markets during a month ending January 16, to which date they are made up. These tables have been carefully prepared, specially for the *American Agriculturist*, from official and other reliable sources, including the notes of our own reporter. They will be found highly interesting, as showing the course of trade and giving a general view of the condition of our breadstuff supplies. They will also be valuable for reference in after years.

1. TRANSACTIONS AT THE NEW-YORK MARKETS.

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
24 days *this* m'th	232,000	11,500	96,000	7,500	58,500	273,000
24 days *last* m'th	573,000	3,159,000	260,000	88,000	565,000	2,741,000

SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*
24 days *this* month,	297,500	2,573,000	1,467,000	29,000	102,700
24 days *last* month,	373,000	2,772,000	2,146,000	33,500	350,000

2. *Comparison with same time last year.*

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
24 days 1864	232,000	11,500	96,000	7,500	58,500	273,000
24 days 1863	317,000	739,000	875,000	6,500	141,500	351,000

SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*
24 days 1864	297,500	2,573,000	1,467,000	29,000	102,700
24 days 1863	224,000	2,778,000	2,212,000	14,650	158,000

3. *Receipts in New-York during each of five years past.*

	Flour, bbls.	Wheat, bus.	Corn, bus.	Rye, bus.	Barley, bus.	Oats, bus.
1863	4,574,059	19,937,856	14,243,599	439,567	2,143,485	11,076,035
1862	5,757,608	27,079,259	17,290,234	932,084	1,151,818	5,051,874
1861	4,968,971	28,429,135	21,120,242	765,665	1,854,304	4,852,009
1860	3,581,420	17,072,796	13,709,562	206,008	1,251,007	4,685,656
1859	3,191,822	3,818,092	3,068,622	334,491	1,527,400	4,226,920

4. *Exports from New-York during each of five years past.*

1863	2,527,338	15,424,889	7,533,431	416,369	52,439	126,556
1862	2,961,518	25,564,755	12,020,848	1,104,549	42,061	210,669
1861	3,110,346	28,898,314	12,889,850	1,000,405	3,927	160,825
1860	1,926,202	13,538,039	4,085,082	450	8,280	103,076
1859	938,516	297,587	497,886	——	6,550	2,568

5. *Stock of Flour in New-York City, January 1.*

	1861.	**1862.**	**1863.**	**1864.**
Western Canal Flour, bbls.	569,800	447,056	721,383	557,057
Canadian Flour, bbls.	10,200	11,100	2,405	15,100
Southern Flour, bbls.	91,998	36,956	28,500	35,100
Total	671,998	495,112	752,288	607,257

6. *Stock of Grain in New-York, January 1.*

	1860.	**1861.**	**1862.**	**1863.**	**1864.**
Wheat, bushels	1,915,388	3,535,741	2,046,052	4,734,817	5,540,444
Corn, bushels	79,400	2,712,000	5,573,911	4,223,013	1,731,320
Rye, bushels	30,500	26,400	58,500	32,270	37,409
Barley, bushels	868,795	169,574	435,472	99,835	584,700
Oats, bushels	1,576,100	494,790	774,575	531,312	3,541,836

7. *Receipts of Breadstuffs at Chicago the past four years.*

	1860.	**1861.**	**1862.**	**1863.**
Flour, bbls.	713,348	1,479,284	1,755,258	1,474,284
Wheat, bush	14,427,083	17,395,002	13,137,533	11,180,344
Corn, bush	15,262,394	26,369,989	31,145,721	26,450,508
Oats, bush	2,198,889	2,067,018	3,782,422	9,139,525
Barley, bush	617,619	457,589	800,476	1,098,346
Rye, bush	318,976	490,989	976,752	839,760
Total grain	32,824,961	46,780,587	49,842,904	48,708,483

8. *Breadstuffs at Chicago at the close of each of four years.*

	1860.	**1861.**	**1862.**	**1863.**
Flour, bbls	31,745	26,986	50,750	54,727
Wheat, bushels	871,537	1,185,902	935,961	824,169
Corn, bushels	178,104	1,568,586	1,086,970	209,859

9. *Receipts of Breadstuffs at Buffalo during the season of lake navigation, for each of the past three years.*

	1861.	**1862.**	**1863.**
Wheat in Flour, bush	10,039,575	13,415,040	12,995,015
Wheat, bushels	26,557,301	19,740,291	22,073,279
Oats, bushels	20,872,860	23,874,954	19,942,449
Corn, bushels	1,703,188	2,661,929	6,418,400
Barley, bushels	273,773	472,336	577,671
Rye, bushels	316,541	893,152	417,121
Thtal grain, bushels	59,763,238	60,966,702	62,423,935

10. *Receipts of Breadstuffs ot Albany, by the Erie and Champlain Canals in each of the last four seasons.*

	Flour, bbl.	Wheat, bush.	Corn, bush.	Rye, bush.	Barley, bush.	Oats, bush.
1860	1,149,100	11,176,000	14,155,500	322,100	2,967,600	6,490,900
1861	1,493,238	39,886,687	23,342,334	832,792	2,235,850	5,978,338
1862	1,826 609	32,667,866	23,709,882	748,897	2,562,659	5,990,028
1863	1,560,800	22,206,900	20,603,600	470,500	3,190,500	12,437,500

Notes on Various Kinds of Hogs.

Prominent among those animals to which, as agriculturists, we must accord a very high economical importance, is the Hog. He holds an honored place in every civilized community so soon as he is dead, though while living, he is stigmatized as the very type of uncleanliness, and surrounded with disgusting associations. The Mohammedan and Jew are polluted by his touch, so that a leg of bacon is a more formidable weapon against an Israelite, than a "sprig of shillalah." Nevertheless, there are pig-worshippers among the South Sea Islanders, and certainly pork has its devotees in this country—as witness the thousands of pork packers and dealers in our great Western cities, who "by this craft have their wealth." Scientifically, the hog belongs to the species *scrofa*, of the genus *Sus*, of the sub-order *Suidæ*, (which names are much like those of our Welch friend, Mr. Evan Evans Ap-Evans, for they all mean nearly the same thing.) The animals of the Hog kind, are of the natural order *Pachydermata* (thick-hided), in which we also find the elephant, rhinoceros, hippopotamus, tapir, and peccary; between these and the hog there are marked points of resemblance—in their heavy build, sluggish motions, short necks, peculiar snouts, and wallowing habits. The same order includes the horse, ass, and zebra; between these and those last mentioned, the resemblance is not so close, but all farmers must have noticed a similarity in the structure of the teeth and their arrangement in the jaws. It is an interesting fact also, that there exists a breed of solid-hoofed hogs.

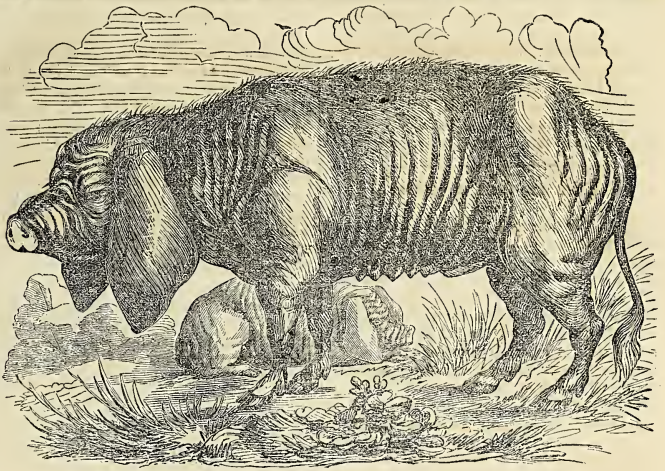


Fig. 2—JAPANESE SWINE.—*Sketched and engraved for the American Agriculturist.*

Fig. 1—THE WILD BOAR.

The hog is generally regarded as one of the most stupid animals, but really he is entitled to a place among the most intelligent. The muscular power alone of the wild boar would not render him so formidable an adversary, were it not used with surprising discrimination. The sow in defense of her young, is a terrible fighter, and a most cunning strategist, as every one familiar with the half-wild swine of our Southern States very well knows. The statement that this animal has a scent as acute as that of a setter or pointer dog, will hardly be credited. Yet it is a matter of history that, with very little labor, an English sportsman actually trained a young sow to point game, and used her in hunting for years thereafter, sometimes alone, and sometimes in company with dogs. Swine are found among almost all nations and tribes of men in the old world, in temperate and torrid latitudes, and have been used as food since the earliest historic times. Like other domestic animals which are thus widely disseminated, this species (*Sus scrofa*) exhibits many distinct varieties, and numerous more or less peculiar breeds—the result of the modifying influences to which they have been subjected in the course of ages. The wild boar of which we present a spirited engraving, is doubtless the progenitor of all the breeds of European swine, modified somewhat by importations of Asiatic (particularly Chinese) blood; and from these the various breeds in North, Central, and South America are derived. The wild boar still exists in certain parts of Europe and Asia, and his flesh is not uncommon in the markets of the cities of Central Europe, during the autumn. The aim of breeders, and the effects of domestication, perhaps, have been to reduce the size of the head, neck, shoulders, and bony parts, generally, and to increase the size of the hams, the breadth of the loin, to decrease the size and weight of the bones and all the less profitable parts, and to change to a great extent the appearance and general character of the animal. This is strikingly shown in the figure of the Chester County (Pa.) white hog, herewith presented.

It would be very interesting, and instructive too, could we learn with what aim the hog has been bred in Japan. The engraving given above is a portrait of one of a pair of Japanese swine now in this city. They seem remarkable only for the immense development of *skin* and *souse*. Their hides lie in massive folds, like the skin of the rhinoceros; and their pendulous ears are fairly elephantine. Their faces are crowded with coarse irregular wrinkles, giving them great breadth, and a very peculiar expression. They are said to feed freely, but never to fatten sufficiently to take out the reefs in their hides. They are of a dingy drab color, sparsely covered with black bristles, and have long straight tails. With these peculiarities, the breed has, in our judgment, no good point.

The engraving of the Chester County hog is introduced in comparison, because it shows so well the results of breeding with a constant view to flesh, fat, and smallness of offal. We are often asked the question, "Do you consider the Chester County Whites a fixed breed?"—or "the best breed?"—or, "Is there any better breed?" Hogs of similar shape to the Chester County Whites, are common throughout a considerable region, including parts of New-Jersey, Pennsylvania, Maryland, and Delaware. What their origin is, no one knows exactly. They are of all colors, but yellow or tan-color with some black, is very common. It is said, however, that many years ago, an "imported Bedfordshire boar" was crossed with the common sows of Chester County, Pa., and thus originated the variety, which has since been bred with great care to improve its good points, and breed out all traces of black and yellow in the animals. There is no such recognized breed as the Bedfordshire, and many of the animals sold as Chester Co. Whites, breed black and yellow-spotted pigs. It is probable, therefore, that the demand for Chester Co. Whites has been so great, that fraud has been practised in some cases. Where genuine animals can be obtained, the cross upon inferior swine is very beneficial, as they are

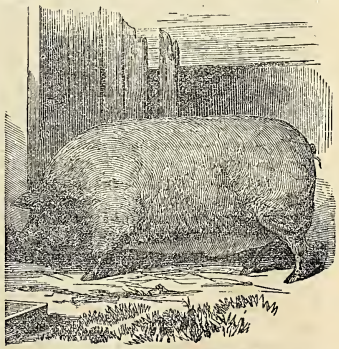


Fig. 3—CHESTER COUNTY HOG.

solid, large sized, small boned, and have large hams. But for indiscriminate crossing, we advise the Suffolks. The breeder who makes hogs a study, and carefully selects males to improve certain points in his herd, will, of course, select boars from the Suffolks, Berkshires, Essex, or other breeds, to suit the end for which his hogs are bred, and the market his produce seeks.

Hints on Raising Calves.

Calves are raised for veal, or to become milk producers, or to bear the yoke, or still unbroken to be used as beef. Where the production of veal is most profitable, it is usually best to give each good cow two calves to feed, and let them run with her and have all the milk they will draw. In winter and early spring, this can not be done, and the calves must be brought to the cow three times a day for the first week or fortnight, and twice a day after that; if the calves leave any milk, the cow should be thoroughly stripped each time. This plan saves much labor in milking, and so soon as one pair of calves has been sold to the butcher, another pair may take their places. Cows will usually own any calves given to them after one or two milking times, and they may then be left to run together in the pasture. The calves should be nearly of an age. No cow that will not give plenty of milk for two calves, ought to be kept for any thing but beef; and it is an excellent plan to make the short-teated cows nurses in this way. The calves which are to be raised either for beef or breeding, should have all the milk after they are 6 or 8 weeks old.

Where butter is made, and the milk can not be spared to the calf, the plan of a correspondent of the *Agriculturist* may be followed. He writes: "Shortly after the calf is dropped, take it from the cow and put it in a dry, well littered stable. Part of each day, it should be allowed the range of some adjoining yard, for exercise. By separating cow and calf thus early, the former is sooner weaned from her offspring, and the latter learns to drink milk more easily than if allowed to suck for several days. Milk the cow at once, and feed the calf all it will drink. To teach it to drink, give it your fore-finger with the back of the hand immersed in the pail of milk; a few trials will suffice. During the third week, give about one quarter of skimmed milk; in the fourth week, one half, and after the sixth week, let it be all skimmed, but sweet and as warm as newly drawn milk. After two months, weaning from milk should begin. Feed a little Indian meal wet up in milk or water. Give once a day, a little soft, sweet hay; he will soon learn to nibble it. A pint of oats per day may early be given. Soon he will learn to eat grass, and then in good pasture, will take care of himself." The practice of removing the calf from the dam we do not commend, though it is very generally practised. After the labors and trial of maternity the cow ought to have the satisfaction of suckling her offspring, at least so long as it is necessary for the calf to have nothing but pure milk. The cow will often worry and pine if the calf be taken away too soon, and a tendency to garget or caked bag is often the result. Moreover, if the calf be fastened in a calf-pen or elsewhere, and allowed to go to the cow three times a day, entire separation will be much more easily borne after a few days.

Where the milk is sold, and it is best to wean the calf from the cow as speedily as possible, it may be removed after a few hours. Meanwhile the cow will have licked it and nosed it to her heart's content, giving the little thing a notion of matters and things about it, setting its blood in circulation, and getting it well on its feet. The calf will have taken its first meal, and "butted down the bag," as they say. The first milk should never be withheld from the calf; utterly unfit for human food, it is aperient in its action, and cleans out the bowels of the calf as no medicine can. Serious results follow, if this does not take place; in case the bowels do not move, a dose of two ounces of castor oil, with a teaspoonful of ginger, ought to be administered. The removal of the dark, gummy fœces with which the bowels of a newly born calf are more or less filled, is very important. After the calf is removed, it is kept away from the cow except at meal times, three times a day. After about the third or fourth day, it may well be taught to drink from a pail. The milk must be freshly drawn at first, the next day, part skimmed milk may be used, and by the time it is a week old, it may be fed on skimmed milk altogether. Then begin to add a little thin gruel, being careful to check any tendency to scouring, by scalding part of the milk with a little fine flour. Bran added to the gruel is loosening; fine wheat flour and boiled milk have the opposite tendency. So that with careful watching, a calf may be easily set right without physic. Where calves run with the cow, and can nibble grass a little, they seldom have any ailments. After a calf is three weeks old, and often earlier, the milk may be withheld altogether, and a tea made of clover hay used to mix with the gruel. In this way a calf may be fatted for the butcher or raised successfully, but it will usually be more economical to feed milk, unless it is worth more than 2 cents per quart.

Cost of Fattening Beef.

The present high price of corn at the West, owing to extensive injury from frost last season, must seriously interfere with the fattening of beef and pork in those regions. An Illinois farmer presents in the Chicago Times the following statement of how it works. He says that any ordinary cow or steer, will eat up in value double or treble the present price paid for the very best beef in the market, before it can be made fat. For instance, it will take about 80 bushels of good corn, beside at least a ton of good hay, to fatten a lean steer weighing 1000 lbs., to weigh 1400 lbs. The account may be stated thus:

One lean steer of 1000 lbs is worth at 2½c.	$25.00
80 bushels of corn are now worth at 90c.	72.00
1 ton of hay now worth	10.00
Labor and trouble of feeding four months	3.00
Interest for 4 months on the above $110	3.66
Total	$113.66

Therefore, to pay actual cost and expenses, the steer, when fat, must be sold for $113.66. After having put his steer through the above process, he should weigh about 1,400 lbs. for which the highest market price is $4.50 per 100 lbs, live weight, realizing for the steer, when fat, just $63.00, which deducted from the $113.66, the value of the steer, before feeding, provender, etc., leaves instead of any profit the round sum of $50.66 actual loss in one steer.

Hence, the correspondent concludes that the farmer who sells his corn and hay, and his cattle unfattened at $2.50 per hundred pounds, makes the most money. He adds: "There are certain *indices* which I think it would be well for both farmer and cattle dealer to observe; they may be stated thus: To make one pound of beef or pork requires six pounds of good corn, fed in the most economical manner. When corn is worth 10 cents per bushel, six pounds are worth one cent; consequently you can make corn and beef at one cent per pound when corn is worth but 10 cents. When corn is worth 20 cents, six pounds of corn are worth two cents, and your beef will cost you two cents per pound, and consequently, when corn is worth $1 per bushel, you can not make a pound of beef or pork for less than 10 cents. And, at these figures, there is left no profit to the farmer for all his labor."

Important Fact in Breeding.

At a recent session of the Massachusetts Board of Agriculture, Prof. Agassiz gave an account of several experiments made to ascertain the influence exerted by the sire upon the future progeny of the dam. He coupled a water-dog with a Newfoundland slut. Part of the resulting litter showed the external marks of the sire, another portion more resembled the dam, and the remainder partook of both breeds. A second litter was bred from the same slut by a greyhound, and the pups were almost precisely like the first litter, part Newfonndland, part water-dog, with scarcely a trace of the greyhound. Similar results were obtained with rabbits of different varieties. This appears to indicate that the first fecundation of the female is not confined in all its results to the immediate progeny, but extends to the further issue. The idea is not new, but additional proof from such a high quarter is valuable. Every one can readily see its application in breeding farm stock. Great disappointment has often been felt by parties who have paid largely for the services of well-bred sires, because the resulting issue has shown little likeness to the male parent, and the latter has been condemned as a poor stock-getter. It is possible that in such cases the results were caused by the female having previously borne young by an animal essentially differing from the sire subsequently employed, and thus having been rendered incapable of producing *true* offspring to any very dissimilar animal. If so, it is an additional reason for securing the use of well-bred animals, especially for the first progeny of any female. The expansion and conformation of the productive organs may perhaps be permanently affected by the character of the first progeny.

Profit of Flax Culture.

The Annual Report of the Worcester (Mass.) Agricultural Society for 1863 contains the following statement of the expense and product of 136 square rods (a little over ¾ of an acre) of flax, grown by Aaron Kimball:

Dr.		Cr.	
Plowing	$ 2.00	401 lbs Flax	$106.26
Harrowing	2.00	130 lbs Tow	5.20
13 Loads Manure	13.00	8 Bushel Seed	36.56
130 lbs of Guano	4.55	Total Product	$148.20
1 Bushel Seed	3.75		
Sowing	1.00		
Pulling Flax	11.25		
Taking off Seed	4.00	Deduct Expense	$54.58
Cleaning Seed	1.00	Profit	$93.62
Dressing Flax	12.03		

The land cultivated was a kind of sandy gravel, dry and easily worked. It had been in pasture 40 or 50 years, and was not in very productive condition. It was plowed up the previous fall, and harrowed in the spring. Further details of culture are not given. The value of the unspent manure after removing the flax, was reckoned to more than pay the interest on cost of land, and this item was therefore omitted in the account.

Maple Sugar Making.

The sap of the Sugar or Rock Maple when it first flows in the spring, is to appearance nearly as clear and liquid as pure water, and in reality it contains scarcely anything but cane sugar. The sugar is more easily obtained in a marketable state than from the juices of any other plant yielding sugar for commerce. If the sap be pure and clear as it flows from the tree, it is only necessary to boil it down in clean vessels, taking care not to burn it, and when sufficiently concentrated, to preserve it as molasses, or after boiling more, to pour it into moulds. It is so easily and cheaply produced that sugar makers have been very careless about it, using utensils of the rudest character. The amount of uncrystallizable sugar or molasses necessarily produced is very small, but as the molasses is quite as much valued as sugar in most markets, this has led to some neglect of the sap, and deteriorated the character of both sugar and molasses.

Let the first fact stated above, be fixed in the mind, viz., that *pure* sap yields nearly *pure* sugar, and that the coloring, the quality, and much of the labor of sugar making, result from foreign substances that get into the sap while in the troughs, etc. Remember further, that in the absence of these foreign materials the amount of crystallized sugar obtained will be much greater. We see then, the importance of securing the greatest possible cleanliness, in every thing connected with collecting and manufacturing the sap. Exposure to the air produces fermentation, and diminishes the crystallized sugar rapidly; therefore, covered vessels, and boiling as fast as the sap flows, are important. Fermentation of the sap also injures the peculiar "maple flavor" which is so greatly relished. The quality of the sap, that is the amount of sugar to the barrel of sap, varies considerably from year to year, but we know of no accurate experiments touching it, nor to determine the character of other substances present in the sap.

The wooden sap *troughs* and potash kettles are still in use in some parts of the country, but enterprising sugar makers use wooden *buckets* which are preferable to tin, and flat evaporating pans, and the sugar is much improved. The sap is sometimes conducted to the sugar house in "leaders" or small wooden troughs, which would be improved by scalding them out once a day to prevent souring. In like manner the buckets ought to be scalded occasionally. The trees are tapped with half-inch augurs, and the hole enlarged with a sixteenth of an inch larger bit, before the close of the flowing season. The sap spouts are 6 or 8 inches in length, 1 inch square, or turned round having a ¼ inch hole bored through them. The ends are tapered off, and they are driven into the holes of the trees so as to barely hold. If tubs are used to collect the sap, there should be holes of about 10 inches square cut to pour in the sap, and over them linen towels should be laid, to strain out sticks, leaves, etc., if the arrangements of the buckets, etc., are not so perfect as to exclude all filth, as is desirable. After this, the sap must be kept covered. The storing tubs should stand on higher ground than the boiling pan, so that the sap will flow from one to the other. During the boiling, skim as often as scum rises. It is seldom that much skimming is necessary. When the cooled syrup is nearly as thick as good molasses, draw it off into a tub to settle, straining through a flannel strainer. Here any sediment will be deposited. After the syrup has settled clear, draw it off, and boil it down again until it is thick enough to sugar off. When the sugar is to be "caked" or "stirred," it must be boiled until a spoonful of it put upon snow will be perfectly brittle when cold. The liquid sugar is taken from the fire and when granulation has commenced, and the mass is thickened considerably, fill the moulds rapidly. If it is to be stirred, at the same time commence stirring, the kettle being held firmly, and stir the mass till it has the appearance of dry brown sugar of the shops. When the sugar is to be *drained* it is usually taken from the fire before it would cool brittle, and after standing until it granulates quite thoroughly, it is ladled out into tubs with false bottoms, some 5 inches above the true, 3 or 4 holes being in the false bottom, and covered by saucers or plugged by round smooth sticks. The sugar is ladled into the tubs, and when settled the plugs are loosened and partly withdrawn, so that the molasses will run through. This may be drawn off from the bottom of the tubs.

A Productive Farm.

A. C. Fulton, residing near Davenport, Iowa, writes to the Prairie Farmer, that his gross receipts from 62 acres of land last year amounted to $10,111. The net profit was $7,905 after deducting $3 per acre for interest or rent of land—besides cost of seed, labor, and all other expenses. This gives the extraordinary sum of a little over $127 per acre. The farm is on first quality of rolling prairie land broken up in July 1862, at a cost of $2,50 per acre. A large portion of it was replowed before seeding. Twenty acres were put in wheat and corn, the balance in onions, potatoes, and sorghum. The larger portion was taken for onions, the seed being put in with a hand drill. It is hardly necessary to add that the land was thoroughly worked. There were also excellent facilities for marketing. Portions of the crops were sold at Davenport, and the balance sent by rail-road to Chicago. With all these advantages, the story looks large—not because of its impossibility, but from the fact that not many farmers manage to bring out the full capabilities of their land. We do not quote this as an example that may be generally imitated, but it shows that occasionally fortunes are made in soil culture, as well as in other pursuits, probably oftener, while the chances of failure of securing a competency are greatly in favor of farming pursuits.

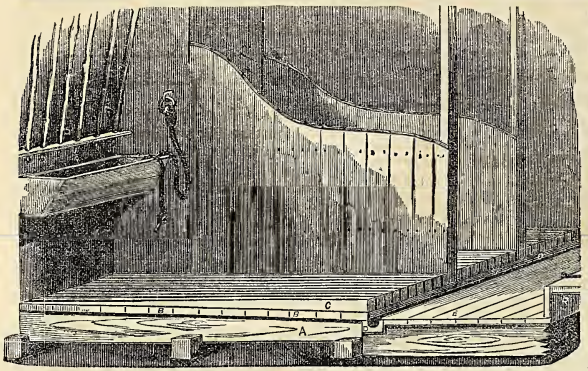
Is Rarey's Horse-Breaking a Failure?

Some of the English journals are endeavoring to show that Rarey's plan of breaking and taming horses, has resulted in greater injury than benefit, and that the system is an entire failure. Instances are given in which colts have been rendered almost worthless from splints, curb, etc., caused by application of the strap, and handling according to Rarey's instructions. Without doubt, such injuries could be brought on by the manipulations of ignorant or careless grooms, who had learned just enough of the "system" to know how to throw a horse and hold him. Mr. Rarey never professed to impart common sense to his pupils, and it shows a lack of this article on their part, when they conclude from his teachings that every colt must be put through a course of knee-straps to prepare him for the harness or saddle. If properly trained from birth, scarcely one colt in a hundred will need any such persuasive to proper behavior. Where vicious habits have been contracted, Rarey's plan, or some modification of it, can be successfully employed—not by every tyro, but by a careful horseman—with less fear of injury to the animal than by any mode previously brought to public notice. We refer to this subject, however, not so much to defend Mr. Rarey, who needs no advocate, as to enforce the truth that the vices of a horse are mostly learned in colt-hood, and that proper treatment during the first three years of his life will make him gentle, docile, courageous, and accomplished in all he needs to learn to make him useful.

How to Dress Skins with the Fur on.

There are many ways of preparing furs for use as articles of dress or ornament. A way the writer used successfully with small pelts, as those of muskrats, mink, cats, rabbits, foxes, etc., is as follows: After stretching and drying, scrape off all the bits of flesh and lumps of fat which may adhere, then wet thoroughly on the flesh side with a strong solution of salt and alum; fold one half upon the other with the fur out, and roll up or pack the skins away for a week or ten days. After this, the pelts are shaken out, each is spread with a layer of bran or sawdust, and thus they are piled one upon another, or again rolled up to lie for a day or two. The moisture is absorbed, and after this, repeated vigorous rubbings and workings by the hands finish them. Thick skins need to be treated a second time with alum and salt, which is best applied finely pulverized and rubbed in.

Tallow or other grease rubbed upon the undressed skins, softens and preserves them. On this principle the Indians tan skins of buffalo, bears and smaller animals—for the nicer operations, using brains which are on this account very highly valued. The fur-dressers in the cities use rancid butter, smearing the skins with it, then put them into tubs, and tread and work them with the feet very thoroughly; after this sawdust is thrown in among the skins and they are repeatedly worked over in contact with it, to remove all excess of grease. Subsequent manipulation, rubbing the skin side with chalk or potter's clay, and whipping and brushing the fur, finishes them. All these operations depend for their success upon the thorough rubbing and working which the pelt must always receive.



Improvement in Horse Stables.

Level floors are a great desideratum, and as intimated in a letter from a correspondent of the *Agriculturist* in Washington Territory, (last volume, p. 325,) it is not only unnatural, but cruel and injurious to animals to force them to stand with the fore feet higher than the hind

Fig. 2—METHOD OF SAWING SPARS.

feet, especially upon wet and slippery places. The item alluded to has elicited from a gentleman of Rhode Island, information concerning a style of stable floors more or less in vogue in and near Providence, and which is to be commended in the main. This consists primarily of a tight floor, sloping to the rear, falling 4 inches in 10 feet, the length of the stall. Upon this lie spars measuring 4x5 inches at the rear end, and tapering to 4x1 inches at the head of the stall. These spars are placed three quarters of an inch apart, and form a level surface for the horse to stand upon. This is shown in the engraving of the stable: (we follow the sketch of our friend in representing the floor-boards (*B*) as running cross-wise the stall, but with our present views, in building or altering our stables, we would contrive to have them run with the slope.) Fig. 2 shows how a 4x6 piece may be sawed to make two spars, each 4x5 at one end, and 4x1 at the other. The sloping floor conducts to the rear the urine flowing down between the spars, which is discharged into a gutter which is made in a 3x6, or 4x8 inch piece, exactly as eaves-troughs are made, being cut shallow at one end and deep at the other. At the lowest point, where two gutter-pieces meet, a 2-inch auger-hole is bored to let the liquid through into the cellar beneath, where it is caught in a vat or tank, or is conveyed off upon the manure heap.

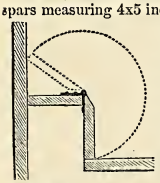


Fig. 3—MANURE DROP.

Fig. 4—CLEANER.

Behind the stall proper is the passage-way, 6 feet in width, (assuming 16 feet to be the least width of a good stable,) and out of this, close to the back wall, is taken a space for a manure drop, 8 inches in the clear. This is shown in the perspective view, and also in fig. 3. The dotted lines indicate the opening of the lid, and how it rests when opened. It will be observed that, while open, no animal can get its foot into the hole easily, unless he happens to slip or fall down, and even then, that no damage can possibly result. It is also evident that, instead of packing a mass of dung upon the edge, as the common trap-door or lifting floor-board does, this lid will clean the edge every time it drops. The opening is 9 inches high, and the lid is hung on strong hinges.

Fig. 4 represents a contrivance for clearing the spaces between the spars, and for cleaning out the gutter. It is a rounded hoe-blade which fits the 4-inch groove. On the back of the hoe is a spur of iron ½ inch wide, to clean between the spars. The handle projects beyond, and is used to poke straws and dirt through the hole in the gutter.

Potatoes versus Tobacco—an Experiment.

Mr. Daniel Steck of Lycoming Co., Penn., sends us the statistics of an experiment made this season, which are of sufficient interest to present to our readers. He says: "Last Spring I read an article in the *Agriculturist* which stated that 'other crops probably, might be quite as profitable as tobacco, if for their production the same amount of labor and expense were employed.' Now, this rather damped my ardor, for, along with many of my neighbors, I had the 'tobacco fever.' However, I commenced the preparation of a piece of land for a trial of this *valuable* crop, but all the while the labor was progressing, that 'other crops, etc.' kept sounding in my ears, so that I at last concluded to try a part of my tobacco patch with some 'other crops,' and fixed upon the potato for experiment, with the following results:

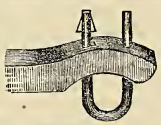
TOBACCO PATCH.	DR.	
To plowing 1 acre		$2 00
" 24 loads of manure		18 00
" Cross-plowing		2 00
" Marking and preparing		2 00
" 4,200 plants		10 50
" Setting plants		2 50
" Hoeing		10 00
" Topping and manuring		5 00
" Hauling and hanging		5 00
" Stripping		4 00
" Packing Boxes		5 00
" Hauling to market		2 00—$68 00
	CR.	
By 984 lbs. Tobacco, at 18 cents per lb		$177 12
Profit on one acre of Tobacco		$109 12
POTATO PATCH.	DR.	
To plowing half an acre		$1 00
" 12 loads of manure		9 00
" Harrowing		33
" 12 bushel seed		9 00
" Marking and planting		2 00
" Cultivating and hoeing		2 50
" Digging		5 00
" Hauling to market		10 00—$38 83
	CR.	
By 130 bushels potatoes, at $1		$130 00
Profit on ½ acre of potatoes		$91 17
Equal to, for one acre		$182 34
Deduct profit on 1 acre of tobacco		109 12
Balance in favor of potatoes		$73 22

Mr. Steck used small-sized tubers for seed, cut them in two and planted them six or eight inches apart in the rows, covering them by driving a double corn plow astride of the furrow."

He remarks that, though a dollar a bushel may seem a high price for the potatoes, it was what they readily brought in the market at Williamsport. But at 75 cents per bushel there would be $8.22 in favor of the potatoes. If we admit this tobacco crop to be an average one, the experiment would indicate that potatoes are more profitable at the East, where they command so high a price; for any soil fit for tobacco can be depended upon to average 200 bushels of potatoes, with the culture and manure here described. The case is different at the West, and wherever potatoes can not be readily taken to market, owing to their bulk and weight, as compared with tobacco. All such matters must be taken into account in making comparisons. It is an undoubted fact, that high culture applied to other crops will very frequently, if not most frequently, show marked results in their favor, when their profits are compared with that of tobacco.

Improved Pin for Ox-Bows.

A correspondent of the *American Agriculturist*, J. Eager, sends the accompanying sketch and description of a convenient bow-pin. It resembles the wire spring by which an umbrella is held open, only, of course, being made of larger wire. Two of these are fastened on the top of one side of the bow, by means of a narrow iron band, as shown in the engraving. An opening in the bow receives the ends of the springs when they are pressed together by being pushed up through the yoke. The bow is easily withdrawn, by pressing the springs together with one hand, and pulling it down with the other. A small iron plate inserted or screwed on the yoke where the springs rest, prevents wearing the wood.



OX-BOW PIN.

The Profit of Keeping Poor Cows.

There must be some great profit in keeping poor milkers, or else the majority of farmers do not know where their profit lies. Shrewd men do not maintain cows that give little and poor milk, in preference to those that give much and rich milk, unless they see advantage in it. Many such animals are raised and grow old upon the farms. If there be no profit, then these farmers are not men of sense, but we know they are sensible men, so there must be, as we conclude, some decided profit in this way of stocking a dairy farm. We shall be much obliged if some one will show to the *Agriculturist* exactly wherein this profit lies. In all our observation we never knew a farmer who set out to stock his farm with first-rate milch-stock, that did not succeed. With proper care in selecting, every herd of cows in the country may average, on good feed, 500 gallons of milk each per annum. Isolated cases of cows that give 1,000 gallons are not very rare.

In a letter recently received from Mr. A. Niles, of Hampshire Co., Mass., he says: "I became convinced, years ago, that it was poor economy for a farmer to keep poor cows." This may seem strange to some farmers, but Mr Niles asserts it without naming the reasons which influenced him, and proceeds to give the

results of putting his convictions in practice, as follows: "I have been trying for a length of time to practise according to my theory, by disposing of all ordinary cows, and supplying their places with others, and I am now quite satisfied with my course. From 4 cows I have made and sold since April 1, 700 lbs. of butter, at 20 cents per lb., and raised in part upon the milk of the same cows, 4 fine heifer calves, from good stock on both sides. I call the calves worth at least $10 each, and the milk we gave to the hogs worth at least as much as the keeping of the calves besides the milk. One of the cows is now about calving, and I hope to make from her, before the 1st of April next, 100 lbs. more of butter, making in all 800 lbs. during the year, from 4 cows—being 200 lbs. from each cow. Calling the calves, as above, $10 each, $40; Butter, 800 lbs., 20 cents per lb., $160; total, $200, or $50 each. Their keeping in summer was common pasture; in the month of April, hay, with one feed of mangel wurzels. Other farmers may do better with better feed."

Note on the Cultivation of Onions.

Mr. L. T. Keith, of Tompkins Co., sends an account of his management of this crop. His onion patch is near his hog pen, and receives an abundant supply of manure from that source. He manures and plows in the fall, and in the spring gives a thorough harrowing. After raking off the bed it is covered with straw, which is burned over. The seed is sown in rows 18 inches apart, and the bed then receives a dressing of four quarts of ashes, and an equal quantity of hen manure, to every two rods of ground. This application is repeated four times before the onions begin to bottom to any extent. He reports his crop for the last year at three bushels of good onions to every rod of ground.

Water-Gaps—Water-Gates.

The inquiry through the columns of the *Agriculturist* for a good plan for a water-gap has received several responses. When fordable

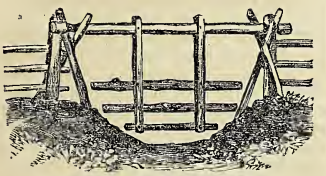


Fig. 1—DEFECTIVE WATER-GATE.

streams cross highways, or through fenced pasture grounds, any contrivance which will let the water pass in time of freshets, without washing away, and yet form a good fence when the stream is fordable, is called a "water-gap," or "water-gate." This may be arranged to float upon the rising tide, or being stationary, let the water through or over it. The floating gates must be so constructed as neither to be broken by ice nor to entangle brush or floating logs and trees; fixed ones can only be used where much ice and flood-wood do not occur. The first form which we give (fig. 1) is very simple, but faulty inasmuch as ice and snags would be very likely to catch in it. Very similar to this, is one without these defects, a sketch and description of which were forwarded by Adam Haun, of Washington Co., Illinois. It consists (see fig. 2) of two uprights, crotched at the top, very firmly set in the ground, and braced against the direction of the flow of the

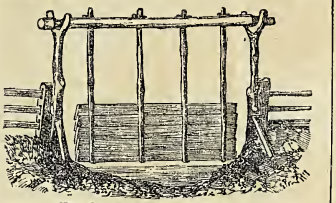


Fig. 2—IMPROVED WATER-GAP.

water. Between these, and lying in the crotch, is a pole, larger or smaller according to the width of the stream. Near each end a short section is worked down to a smaller diameter, so that the pole can not slip in the crotches. Into this pole studs are mortised, which extend as low as necessary. Boards are nailed upon these studs, upon the up-stream side, and lapped so as not to catch the "drift," whatever it may be. When high water comes, this hanging gate will float upon the stream, the pole turning in the crotches, which must of course be somewhat higher than the floods can ever reach.

D. M. Hays, Fayette Co., Ohio, sends the description of one (see fig. 3) which he calls a

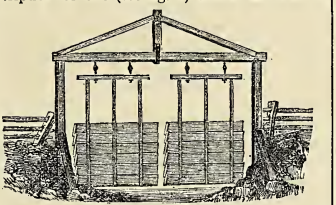


Fig. 3—DOUBLE WATER-GATE.

"flood-gate." He says: "My plan is the best I can get after long experience. If built of sound timber it will stand 15 years, as I have already tested." It is all of hewn timber; the posts 8 by 8 inches, and of length sufficient to rise above the floods, are set and braced in mud-sills (12 by 20 inches) not shown in the cut. The cross-beam, or plate, is mortised upon the posts, strengthened to prevent sagging, by a king-post (which is attached by a stirrup), and braces. The two gates are suspended independently, from the cross-beam, and are constructed on the same principle as the one in the second plan described, with respect to lap of boards, etc.

Fig. 4 illustrates the plan used by C. G. Sievers, of Ohio. It is immovable, and is adapted to a brook or "dry branch" liable to flood, after heavy rains. It consists of a log laid upon stones at a proper height above the bed of the brook, and against two strong posts. Upon this rails are laid, their ends bedded in the ground

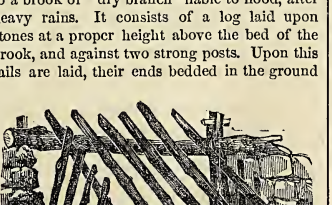


Fig. 4—FENCE FOR WATER GAP.

and fastened with stones. Stakes are driven on the sides to prevent pigs getting through. This is recommended as useful in filling up ravines, for much drift is caught which would otherwise be washed down to a lower point, and the bed of the stream is thus gradually raised.

The plan submitted by Mr. P. A. Bettens, Switzerland Co., Ind., is similar to this in object and principle, and consists of a timber (see fig. 5) built into two stone piers. Rails are set in the bottom of the stream and mortised firmly into or fastened against this cross-timber.

No one kind of water-gap can be recommended as adapted to general use, but each of these kinds, and perhaps others, may be best under different circumstances. The hanging gates, unless they are quite heavy, may be swung by hogs so that they can get through, if the bed of the stream becomes nearly dry. This may be prevented by a stake driven on the up-

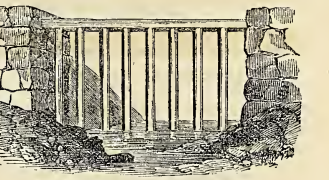


Fig. 5—PERMANENT WATER FENCE.

stream side, to prevent the gate swinging in that direction, and a row of stakes to prevent the approach of the hogs on the same side.

The Use of Sea-Weed.

"Connecticut," writes to the *American Agriculturist:* "It is principally through the use of the marine vegetation thrown upon our shores, that we can bring back to the land the riches it is ever pouring into the sea. From the banks of every rill, brook, and river, there is constant waste by attrition; and from every village and city upon tide-water, the fat of the land is cast out through the gutters and sewers. It goes to manure the gardens of the sea, and to nourish a vegetation hardly less luxuriant and bountiful than that which grows upon the land. These weeds, as they are commonly called, are torn up by the fall and winter storms, and are thrown in great masses upon the shore. In high tides and with favorable winds they are sometimes piled so high that they remain permanently. But by far the larger part are swept out to sea by the tides, and permanently lost to the land.—To the shore farmer, these weeds are a source of wealth not likely to be over-valued. They are greatly under-estimated at present, though much has been said of their value in agricultural papers, and they are used to some extent in every district where they are accessible. Much is gathered and spread over the farms within five miles of tide-water, but far more either rots on the shore, or is swept into the sea again for the want of hands to gather it.

The principal varieties used for manure are known as rock or blister weed, kelp or ribbon weed, and eel grass. In all masses of these weeds thrown upon the shore, will be found a great variety of smaller weeds, some of them exceedingly fine, and beautifully colored. The rock weed is so called from the fact that it grows in great abundance along rocky shores. It is called blister weed, from the multitude of air bladders that form upon it. This is justly regarded as the most valuable of the sea weeds for making manure. Where its worth is known, it sells readily for two dollars a cord, delivered at the wharf or landing place where farmers come from a distance to purchase it. It is very

rich in nitrogen, and gives good results in whatever form used. The demand is so constant, that many persons living in favorable localities, make a business of gathering it, and get large wages. It is pulled from the rocks by hand.

"It is used in a variety of methods, according to the circumstances of the cultivator and the crops he desires to raise. If he has no specific crop in view, it is carted immediately into the barn-yard, where it serves the two-fold purpose of increasing the bulk of the manure-heap, and of fixing the more volatile parts of the droppings of cattle. It is particularly valuable for this latter purpose. Here it is mixed with muck or soil from the fields, and remains until it is wanted for top-dressing or for the spring crops. To employ a full supply for the barn-yard, barn-cellar, and stables, is probably the best use for all kinds of sea-weed.

"If there is a surplus, as there always should be upon a shore farm, it may be used in several other ways. Rock-weed is one of the most valuable manures for the corn crop. It is frequently drawn directly to the field that is to be planted in the spring, and is there composted with muck alone, or with a mixture of muck and yard manure. It ferments in the heap, and should be forked over a few weeks before planting time, when it is spread and plowed in.

"It is also an excellent manure for turnips, and for all the brassica tribe of plants. After the ground is plowed and the rows are marked for the turnips, the green weed is dropped in the furrow, and a ridge is raised over it by turning two furrows together. The seed is then planted upon the ridge, and in fresh land a fair crop of turnips is almost invariably grown.

"For winter grain, the rock-weed is spread broadcast upon the land, and plowed in. It is also used as a top-dressing for grass land, both pasture and mowing, and always with good results, though much less of it is used in this way than in the former methods.

"The kelp or ribbon weed is a much larger plant than the rock-weed, frequently growing several yards in length, and is attached to the rock in deep water, by a stout, round stem from a half-inch to an inch in diameter. It is treated in the same way as the rock-weed, but is more commonly spread upon the ground, to be plowed in. It decomposes very rapidly, whether in the furrow or in the compost heap.

"The eel grass is less esteemed than the other varieties, possibly because of its greater abundance, as well as on account of its less intrinsic value. The dry weed, as drawn from the shore, is used a good deal for bedding in stables and sheds, and for the covering of beds and borders in the garden. It is an excellent mulch wherever that is wanted. A good deal of it rots upon the shore, and in this fine state it is largely used for a top-dressing upon grass land. Where it can be had for the carting, as it generally can be by those who own shore farms, it will pay well to keep the teams busy in winter upon this work. We have so often seen excellent crops of grass following these top-dressings, that we have no doubt of their economy. But a better way of gathering this kind of weed is in its green state. It is a common practice with farmers who live a little back from the shore, to attend to this work immediately after haying. They have large scows holding twenty or thirty tons, and gather the weed with rakes made for the purpose. A good deal of mud is hauled up with it, and after the boat is loaded, it is floated up with the tide to the landing-place, and thrown upon the shore, or taken immediately into carts and drawn to the yard. More than half the mass is mud, and the whole is easily cut with the shovel. This, mixed in the yard with stable manure, forms an excellent compost, and is the main reliance of many farmers for manure. As it can be had in all tide-water creeks and coves, for the gathering, it costs the farmer nothing but the labor of scowing and carting. With this compost, which he can multiply to any desirable extent, he can bring up his farm to any degree of fertility.—As all these weeds contain sulphates, it does not seem to be advisable to mix plaster in the compost heap where they are used. Indeed it is of little use to spread plaster in any shape upon shore farms.

"In regard to the use of lime in connection with sea-weed, it will depend very much upon the farmer's facility for procuring it, whether it can be made to pay. It is not needed to assist in the decomposition of the compost heap, for the green weed will do this very perfectly. Oyster-shell lime, and the refuse lime from gas works, are usually the cheapest sources of supply near the shore. Where these can be procured cheaply, it will do to use them upon the land. Stone lime at the market price in cities will not pay. Sea-weed and mud from tide-flowing creeks, made up principally from decayed sea-weed, are cheap sources of manure, and should be used to the extent of the farmer's ability to procure them."

Manure of Different Classes of Animals.

Cows in full milk or with calf, secrete from their feed, great quantities of valuable substances which fattening cows or oxen will not withdraw from what they eat—hence the manure of the milch cows is not worth nearly so much as that of fattening animals. This must be evident from the obvious fact, that out of the milk, or what would be milk, the entire structure of a 5-weeks-old calf is formed. The calf continues to grow and learns to eat the same food that the cow does, and for several years is building up his frame of heavy bones; all the valuable ingredients permanently entering into his system, of course come out of his feed, and would, were he a full-grown steer, have passed into the manure. Many farmers are likely to undervalue the important differences in the quality of the excrements of different classes of the same kind of stock.—The differences which we have alluded to, of course exist as well in the manure of other kinds of animals as in that of neat cattle. Let us then bear in mind that keeping milk-giving and growing animals is a great tax upon the land, that fattening animals make rich manure heaps, and that full-grown male animals draw much less upon the soil than females bearing young and giving milk.

How to Save Manure from the House.

E. Dickerman, Middlesex Co., Conn, writes: "The article in the January *Agriculturist* on 'Treatment of Night Soils' has induced me to send you my method of saving all liquid manures made in the family. At the lower edge of my garden, I made a pit large enough to contain 2 or 3 cart loads of muck, weeds, or other refuse matter to act as absorbents. This pit was stoned, flagged and cemented. I then dug a ditch from my slop room, and laid a cement drain deep enough to be below frost, from the back door to the pit, and connected therewith my wash-room and sink, by which all sink slops, washing suds, and *liquid* night soils are conveyed to the pit. In this way any ordinary family may make and save, at a trifling expense, sufficient manure to fertilize a small garden."

Fermentation of Manures.

Manures act upon the soil in three ways. They either supply plant food directly to the soil; or indirectly furnish it by making available that which may exist in the soil; or they change the character of the soil so that barren ground becomes fertile—not by the addition of plant food, but of something which makes soil fit for the roots of plants. Most manures act in all these ways, but by far the most common action is the first mentioned, namely, supplying food directly to the growing plant. The manure from stables, cow-yards, and hog-pens, when applied to the soil in its fresh state, must undergo fermentation, and even decompose quite thoroughly before it is available as plant food. During the progress of this fermentation the plants derive some benefit in several ways, but the effects are much better, in most cases, when the manure is applied after it is well rotted, that is, when fermentation, and in fact *decay*, has progressed so far that the whole mass admits of being worked over to a uniform consistence.

Manure, consisting of solid and liquid excrements of domestic animals with litter, if thrown into a heap, soon heats, and this heat is sometimes intense. Spontaneous combustion even has taken place, which could be accounted for in no other way. The great heat of a common hot-bed is well known. In this condition the valuable qualities of the manure waste rapidly.

If the same manure be compactly piled up, or in any way subjected to great pressure, all fermentation ceases, provided only the usual amount of moisture be present. This may be seen wherever a cattle path crosses the manure heap, or where cattle are allowed to stand on their manure, as is sometimes practised. The conditions necessary to decay or fermentation are: (1) air, (2) moisture, (3) some warmth. Practically, there is always warmth enough when the manure is not actually frozen. There is also an abundance of air if the mass is not subjected to a great pressure. The great desideratum is, so to regulate the supply of moisture and pressure, that a uniform fermentation will proceed, and not go too far. The fermentive action produces moisture from substances which before were dry. Breaking up the fermenting mass, and again packing it, check the fermentation, and considerable time is required before it starts well again, and this is one of the best ways of making the manure rot uniformly. When the heap is built up with perpendicular sides, and so that water may be leached through it, an excellent quality of manure may be produced by having a pump rigged to throw the liquids of the stable over the entire mass, saturating all parts. The stable liquid, with the leachings of the heap, is best collected in a hogshead or tank sunk in the ground near by. The liquid thus flowing over the heap, wets all parts, is absorbed to a considerable extent, imparts renewed activity to the fermentation of the straw parts, checks the too violent fermentation of the richer portion by washing out the more soluble matter, and at the same time it renders the whole mass more uniform in character. Almost all fermentation ceases when manure is submerged in water, or is very wet. The addition to stable manure, of inert vegetable substances in large quantities, like muck, checks fermentation somewhat, but after a while it

starts again and the increase in the bulk of the manure will also be found to be a very great addition to its value.

Where are the best Cattle?

The most valuable breeds of neat cattle originated in Great Britian—the Short-horns, Devons, and Herefords in England; Ayrshires in Scotland; and Alderneys in the Channel Islands. It would be natural to suppose that the best specimens of these breeds are still to be found in Great Britain, but we are by no means sure that this is necessarily the case. Among the great variety of soils and climates in this country, there are those peculiarly adapted to certain of these established breeds, and considering the tendency of the surrounding circumstances to change the type of animals bred for several generations under similar influences, and the constant study of our best stock-breeders to improve their herds, we may reasonably expect marked improvement in favorable localities. It is certainly true that we have as fine Devons and Ayrshires as there are any where. Alderneys too have been selected with great care, the highest prices have been paid, and many prize animals have been imported. Our Short-horn breeders have been exceedingly liberal and judicious in their purchases in England, paying the highest prices and taking off the very choice of the best herds of England in repeated cases. A few years since American bred Short-horns began to find their way back to British pastures, and now we notice that descendants of these Americans are prize-takers at British Shows. At the Royal Agricultural Society's Show in Worcester, the 1st prize for heifer calves over 6 and under 11 months old, was awarded to D. McIntosh, for Lady Oxford 5th, 11 mos. old, got by 3d Duke of Thorndale out of Lady Oxford 4th—both of which animals were bred by S. Thorne of Thorndale, Dutchess Co., N. Y.

Pleuro-Pneumonia in Cattle.

Notwithstanding the great efforts and noble sacrifices made by the citizens of Massachusetts to stay this disorder when it first appeared among them, we still hear of it in that State and elsewhere, and no doubt we shall hear more of it henceforth. It is acclimated, the seeds are sown from Maine to Minnesota, and they will bear fruit. In European countries where regular Veterinary surgeons are sustained by the government, and a police system exists which men dare not come in conflict with, this disease is controlled by most stringent measures. The infected herds are isolated, treated by educated veterinarians, and we believe the cured animals are fattened and killed. All exposed herds are thus annihilated. After this, the buildings are thoroughly purified, and only when the surgeon gives a certificate, may they be reoccupied.

In this country if a man suspects that the disease is in his herd, and knows the danger—nothing hinders him from selling out his entire stock, fumigating and liming his barns, and stocking his farm anew. Thus the disease is scattered, surely to break out in distant localities. The man who does this is guilty of inflicting upon numerous farming communities the greatest possible scourge—the most insidious and terrible malady which can befall their herds.

The need in this country of educated veterinary physicians and surgeons, is very great, and will continue so long as the quackish horse-leeches and cow-doctors are encouraged in their quackery by reading farmers, and until young men of character devote themselves to the study of the diseases of animals, gaining a thorough education, and thus proving themselves worthy, are received into the fraternity of educated professional men. Had we such men in every county, this disease could be recognized at once, and the proper isolation effected. Public sentiment would uphold the town, county, and state officers in taking very severe measures to stop the spread of the malady even now, were men of influence to inform themselves thoroughly in regard to the necessity of prompt and energetic action. Indiscriminate immediate slaughter is not to be recommended. Isolation of the herd and inoculation with the virus from the lungs of a slaughtered animal, in the tails of all (in which the disease has not made great progress,) will enable the farmers to save most of their animals not much diseased, and fat them for beef. This subject is one which demands the attention of all our agricultural societies, and in fact, has a great personal interest for every farmer.

Wagon Wheels.

Wagon wheels ought to stand perfectly plumb, and the face of the tire should be parallel with the axles and with the plane of travel, if it is a prime object to have the load upon the wheels drawn with the least outlay of power. Carriage and wagon makers have, it would appear, long been in the habit of following in the ruts of old usage, and have not worked philosophically. In this they are like the rest of the world and especially like us farmers. In the Coach-makers Journal we find some sound reasoning about the shape and position of wheels. Carriages are made to run straight forward. Wheels are often made "conical" or dishing," that is, having the rim a narrow section of a cone. Now a cone naturally rolls in a circle, and a cylinder rolls straight forward. The tire of a wheel therefore should be a narrow section of a cylinder, for there is a loss of power in making a cone roll in a straight line. The power which it is required to move a cone in a straight line may be judged from the fact that the most powerful means for grinding the hardest materials is a cylinder forced to roll in a circle. And the same "twist" or "drag" which grinds the paint in a paint mill worked on this principle, wears out the wheels, pulverizes the road, and adds to the draft of wheels if made conical. It is unphilosophical also to have tapering axles and conical hub-boxes, both should be perfectly cylindrical. If the ends of the axles are bent down, the only good effect is to give the mud thrown when driving rapidly a tendency to fly away from the carriage. The wheels, however, roll upon the edge of the tire, and are drawn at a mechanical disadvantage.

Eggs Four Cents a Piece.

There need be no pullets sent to market because corn being $1,50 per bushel, it will not pay to keep them. In this city fresh eggs bring 40 to 45 cents per dozen, and the price will likely be higher before it is less if the practice of killing off the pullets lasts longer. Four cents a piece is the price when left at the door by a man whose character is a guarantee that all are as represented—fresh laid. At such prices it will pay to put up a regular hennery with glazed southern front, a roosting and feeding room, and retired laying and hatching room. Warm water given twice a day to hens thus quartered, with plenty of grain food, some meat or fresh bones pounded fine, fed regularly as often as every other day, and some green feed also, as lettuce, celery, cabbage, etc. on the alternate days, will all conduce to pursuade the hens to keep up a steady laying all winter.

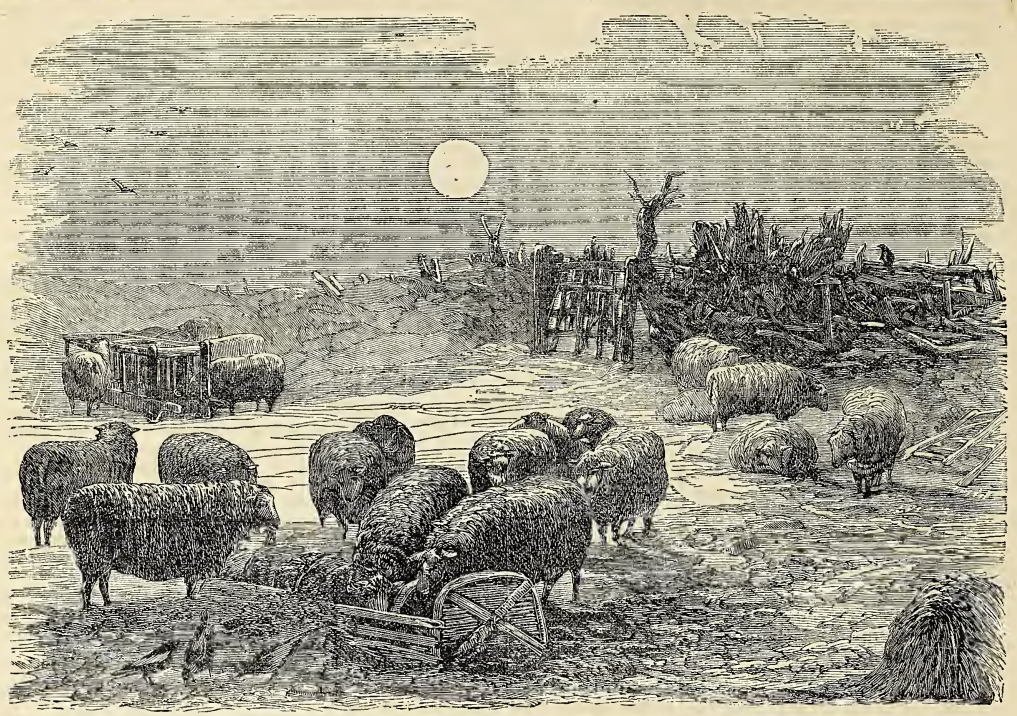
Look Out for Help.

It is rather to be hoped than expected, that the scarcity of farm help experienced last year, will be alleviated this, by the early return of the stalwart yeomen who left the field of industry for the field of battle. At best, they can not participate in the spring work. It therefore behooves all employers to look out in season for needed help. When a reliable man can be secured, lose no time in engaging him. *Good* help is cheaper at high wages, than inexperienced or careless hands at the lowest rate, and an unimportant difference of price should not prevent a bargain with one known to be trustworthy. It may be necessary for many to employ green hands. The sooner they are found and set to work, the better. Fortunately an immense increase of immigration is partly supplying the demand for laborers. Many who are now leaving the old countries have practised the modes of farming as conducted there, and if properly trained, will soon become familiar with American ways. The employers in a township where many hands are needed, might profitably engage a suitable agent to look out for the required number from the Germans, Irish, and others now flocking into this city and other Ports of Entry. He will need to be a man of considerable address, or the substitute brokers will secure them by the ship-load, to be retailed out at a heavy profit, as has occurred heretofore. In many cases good help might be obtained through the services of those having friends across the Atlantic, to whom they would at once write upon application.

Labor-saving machinery may be now introduced upon thousands of farms with especial advantages. The mower and reaper, grain-header, horse-hoe, horse-rake, hay-spreader and horse-pitchfork, should be secured at every practicable point. Cultivators will do well to look out for these and other needed implements before the busy season comes on. Last year many were unable to procure them, through the unprecedented demand which exceeded the ability of manufacturers to supply. Our advertising columns will indicate where to send for catalogues and other information concerning the various implements.

A Mammoth Grasshopper.—A Frenchman while translating an American book, came to a sentence which related that a soldier tied his horse to a locust (tree) standing in front of a house. Looking at the dictionary he found the word locust to be in French, "*lanternelle*," meaning "grasshopper." He therefore used the word *lanternelle* in his translation, thus conveying the idea to his readers, that in this country grasshoppers were large enough to admit of a horse being fastened to them, and that one was at the time conveniently standing by the door.

A little boy ran to his mother with, "O Ma! Johnny took the last egg out of the nest, and now the old hen ain't got any pattern to lay by."



A SHELTERLESS FLOCK.—*Engraved for the American Agriculturist.*

Shelter for Sheep.

Our artist this month furnishes us with a picture which, we are sorry to believe, has its counterpart in many parts of America. Taggy-fleeced ewes, big with promise, and stiff with cold, on a hazy February morning, after a light fall of snow, turn over the sticks and stalks in the dilapidated rack, or ruminate upon the prospects in lambing time, while the crows content themselves with the anticipations of the good time coming. Artistically the picture is effective in the disposition of lights and shades, the grouping of the animals is good, the atmospheric effect very natural; in fact, the chief objection to the engraving is, it is a little too natural.

The sheep is an animal which will endure much exposure, and its health is better when it is exposed to most of the natural changes of the atmosphere, but not to storms or wet ground. The Merino is probably the hardiest of those breeds which are most profitably bred in this country, and will bear most exposure. There are many fine flocks, healthy and vigorous, particularly in the prairie States, which never have more shelter than is afforded by a board fence, or an Osage Orange hedge. For all this, sheds would be a great comfort both to the sheep, and to the shepherds. The straw and rail shelters first, to be succeeded by more substantial sheds, and these again by good sheep barns—this is the order of progress. A sheep barn must afford shelter both for the sheep and their feed—hay, straw, and grain. It should be supplied with flowing water or a good well. The site should be perfectly dry and sheltered from winds to avoid much drifting of snow, and it is best to have it large enough to accommodate the entire flock. Or, if it is impracticable to have all in one barn, then the barns should be near together, and if possible, placed so as to afford more effectual shelter. The barn should always be built on the side-hill principle, even though it be on level ground—the sheep rooms being on the lower floor, and the entire space above being used for hay and grain. Where there is no available hill, the sheep floor may be depressed a little, and a causeway raised so that teams may be driven in upon the main floor. For large flocks a convenient arrangement is a main building with low wings, which indeed are only closed sheds. The number of sheep which may be accommodated in a certain space, varies with each different breed. Randall says, "an apartment 20 feet by 40, will accommodate 75 Paular Merinos," so that they can all eat at the same time at wall racks. The larger families of Merinos need more space, and the South-Downs and Long-Wools still more (near twice as much as the first named). It is better to have too much space than too little, at any rate. The same writer limits the number of sheep which should be confined in one room (40 by 40) to 150; many good farmers say 100. Double feeding racks may be so arranged as to form partitions, to subdivide the 100 or 150, but they will not be a sufficient separation for the chief divisions of a large flock. The rooms and yards should be entirely distinct; and it is very desirable also to have a detached shed wherein to place any part of the flock which may be diseased, or which may have been exposed to disease. In all buildings for sheep, the floors above them should be perfectly tight (tongued and grooved) to prevent the sifting through of hay-seed and dirt, and all hay-racks used should be so constructed that dust will not get into the wool. Sufficient litter should also be used, to prevent injury to both sheep and fleece, by the manure.

What is Inside of a Plant.

Most persons are familiar with the external parts of a plant; they know that the root takes up food from the soil, that the leaves prepare this crude food for use in the growth of the plant, and that the flower produces seeds; but what is the internal structure of the plant, what the mechanism and its workings, are subjects upon which few persons have any definite knowledge. We sometimes see articles which convey the idea that there is a circulatory system of tubes much like the veins and arteries of animals, and that the sap is sent up through them by some force in the root. In order to state intelligibly what is known about the rise of sap through the plant, we must know of what it is made up. An examination of the internal structure of plants is not practicable by the great majority of readers, for the reason that it requires in the first place an expensive microscope, and secondly, a considerable amount of skill in using it. They must content themselves, then, with our figures which show these minute parts and represent things we have actually seen.

Plants and animals differ from mineral substances in the fact that they are are *organized, i. e.*, made up of distinct parts. If a piece of stone be powdered ever so fine, the microscope will show the powder to be only very small bits of stone, and we may reduce the powder to the minutest possible dust, yet each particle

will be, except in size, like the original lump from which it came. When a *vegetable* substance is thus examined, the case is different: we find it to be made up of *parts*, and if the division is carried beyond a certain point, we get fragments which do not represent the whole.

To see these parts of which the plant is made up, in their simplest form, we may take for illustration the early sprout from a seed, cut a very thin slice crosswise, and examine it with a microscope. It will appear as in figure 1—a network of six-sided meshes. In this case we have a cross section filled with holes. Now do these show the mouths of numerous tubes or veins, or what are they? The answer to this must be found by taking a thin slice in the opposite direction, lengthwise of the shoot. Put this under the microscope and what do we see? Pretty much the same thing, except that the little six-sided meshes are somewhat longer in the direction of the length of the part (fig. 2), and we come to the conclusion that the portion of the vegetable under examination is filled with *closed cavities*, for the strongest magnifier fails to show any communication between one of these six-sided meshes and another. The question will probably occur, are these cavities openings in the mass of the plant, like those in a well-made loaf of bread, or is their nature different? By a little careful boiling or soaking in weak acid, we are able to answer the question and show what is their real nature. With proper management the mass in question may be made to separate into little roundish bladders or bags, each complete in itself. These bodies, represented in fig. 3, are called *cells*, and *of these cells, in some one of their several forms, all parts of all plants are made up.* The kind of which we are now speaking is the simplest form, an oval bag of delicate membrane. The contents of the cells will be spoken of in another article; for the present we wish to study their external characters. From what has been said, it is evident that the divisions forming the network seen under the microscope (figs. 1 and 2) are really double, and we know this to be so, because the cells can be separated. Though the separated cell is more or less rounded, we see that in the mass, (fig. 1 and fig. 2) they are six-sided; and as this difference in appearance may be puzzling to some, it will be well to explain it. If a number of spheres, as bullets for instance, are placed in a vessel, it will be found that each one is touched by twelve of its neighbors, and there are of course large spaces between the balls. Now suppose that the spheres are of some yielding material, the mutual pressure being equal at twelve points, will bring them into twelve-sided bodies like fig. 4. That pressure on all sides of the yielding cells is the cause of their twelve-sided form, may be shown by a simple experiment. A soap bubble, as ordinarily blown, is spherical, the pressure on all parts of its surface being the same. Now take a clear glass bottle, or similar vessel, and place a little soap suds in the bottom, and then by means of a pipe-stem, rye straw, or some other small tube, blow into the suds so as to fill the bottle with a great number of small bubbles; it will be seen that all those not in actual contact with the glass, will be perfectly twelve-sided. An aggregation or mass of simple cells of the kind above described, is called *cellular tissue*, which forms the greater part of all very young plants; and this is the general nature of the flowers, leaves, and the soft portions of all plants. Being made up of short cells, this kind of tissue has no great amount of strength, and plants which attain any considerable size and need to be stronger, have cells of another shape and much firmer, which together form *woody tissue*; this will be described another month.

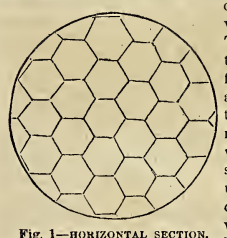


Fig. 1—HORIZONTAL SECTION.

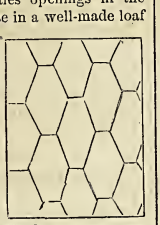


Fig. 2—VERTICAL CUT.

Fig. 3—CELLS.

Fig. 4—A TWELVE-SIDED CELL.

Easy Method of Propagating Plants from Cuttings.

The following communication from one of our most successful cultivators, will be valued not only from the simplicity of its directions, but for their source also: "In the January *American Agriculturist* I observe a correspondent from Paris, C. W., making inquiry in relation to a work on Propagation of Plants. As a few simple directions may be acceptable to others of your readers, amateurs as well as professional florists, I will briefly give one of the simplest plans we pursue. We use what we here term 'pans'—that is, the saucer used to hold water below flower-pots—but common kitchen saucers or plates will do equally well. These are filled with sand (any kind that is most convenient) and the cuttings inserted just thickly enough to touch each other, then watered until the sand *becomes in a state of mud.* This is the only condition of success: that the sand be kept in this half-fluid state until the cuttings are rooted, which will be in from ten to twenty days, according to the condition of the cuttings, and the *temperature* of the greenhouse or parlor in which they are placed. The best temperature is from 70° to 75°, but it may range from 50° to 80°. If placed in the greenhouse, the saucers should stand on a stage or shelf fully exposed to the sun: if in the parlor, then in the lightest and sunniest spot, and never be shaded, for so long as the sand is kept in a state of mud, the most tender cutting will not wilt. But once allowed to dry, the whole operation will be retarded, if not entirely defeated. When rooted, the cuttings should be potted off at once into good soil, in the smallest-sized pots, and kept well watered until they begin to grow. I may further state that the best cuttings to use are what we term 'young wood'—that is, the young shoot in the succulent state, before it attains its woody or hard character. In this way, roses, geraniums, fuchsias, carnations, verbenas, heliotropes, etc., in fact almost any cutting will root, if treated as above, without a loss of more than five per cent. Your most inexperienced readers can perform the operation of making a cutting and inserting it in the sand, just as well as I can. They may cut it where they please, at a joint, or otherwise, in length from 2 to 4 inches, and if the foregoing directions are strictly attended to, success is certain. There is but little mystery about any garden operation—a few simple laws understood, and the whole thing becomes easy. But a host of charlatans have endeavored to envelop the most simple operations in a maze of words filling quarto volumes, which would have been better understood if compressed into one page of the *Agriculturist.* The above is not our manner of propagating on a large scale, but it is the most simple and safe for those who have not the facilities of a regular propagating house."

Jersey City, N. J. PETER HENDERSON.

Winter Apples on Stocks of Early Sorts.

It is a well-known fact that late varieties of apples will in some cases ripen prematurely, and that they will not keep well. This is often accounted for by peculiarities of soil and climate. Geo. B. Cone, of Washington County, N. Y., attributes it to the fact that the late sorts are grafted upon stocks of early varieties. He says that an experience of forty years has convinced him that such is the case, and insists that it is of great importance that seeds for raising stocks intended for late apples should be from long-keeping fruit. Mr. C.'s statement is contrary to the received notions regarding the influence of the stock upon the graft, and we give it a place with a view to call forth the observations of others.

Raising Quince Stocks for Pear Trees.

Several who wish to raise their own quince stocks, have made inquiries of the *Agriculturist* as to their management. First, the kind of quince is of great importance. A very free-growing variety, known as the Angers quince, is the one employed, and is vastly superior to the ordinary slow growing sorts. There are two ways of propagating the stocks: by *Layers* and by *Cuttings.* In obtaining them by layers, a young tree is cut down in spring, to within four or six inches of the ground. This will throw up numerous vigorous shoots which, in the autumn or the following spring, are to be earthed up, raising a mound around them so as to cover the cut portion and the base of the new shoots with several inches of earth. The upper portion of the mound is usually made with a depression, like a saucer, to catch the rains. The shoots thus earthed up, strike root, and are fit for transplanting to nursery rows the succeeding fall or spring. One or two of the shoots are left to continue the growth of the root, which, if the soil is well enriched, will throw up another set of shoots, and thus afford a supply of stocks each alternate year.

In propagating by *cuttings*, vigorous shoots of six inches to a foot in length, are taken off any time in winter when they are not frozen, and buried in sandy soil below the reach of frost, or in a cool cellar in sand. These are planted out in spring, six inches apart in nursery rows. They should be planted so deep that but one, or at most two buds are above the surface, and but one shoot should be allowed to grow. A. S. Fuller, the well-known nurseryman of Brooklyn is particularly successful with quince cuttings, not losing five per cent. His success consists in the fact that his cuttings are *callused* before they are set out. They are made in the

usual manner, and tied in bundles of convenient size, and the lower ends are dipped in thin mud to the depth of about an inch. This not only prevents the cutting from drying out, but induces the formation of a callus before they are put into the ground. Cuttings thus prepared, if kept in a shed and sprinkled occasionally, will be found to be finely callused by planting time, and when set out will rapidly strike root and make a good growth. In setting out cuttings prepared in this way, or any other, much of the success will depend upon bringing the finely pulverized soil in close contact with them. The soil should be pressed down firmly against the cuttings by the use of a wooden pounder or blunt shovel made of a piece of plank. Both cuttings and layers should be well cultivated, and when budded it should be done as low down as possible. Many trees are ruined by being budded too high on the quince stock. They should always be set so that the junction of the pear and quince comes below the surface; when budded high it is necessary, in order to bring the junction below the surface, to put the quince roots so far in the soil that they decay and affect the health of the tree. The best nurserymen remove the earth around the stock before budding, in order to get near the root.

Wine Grapes in Mo.—Norton's Virginia.

An intelligent correspondent of the New-York Tribune, in a description of the vineyards at Hermann, Mo., gives the following account of this grape: "The Norton's Virginia vine is vigorous, hardy, and productive; starts two weeks later than the Catawba; ripens two weeks earlier, hence valuable for low grounds; bunches medium, compact, sweet and rich; moderately juicy; makes an excellent dark red wine; subject neither to mildew, leaf blight, nor rot. Its small size does not fit it for a table grape so well as some other kinds, though for one's own use it is good enough. When it was first planted here, they inquired of Mr. Longworth, who was authority in all such matters, as to its value; he replied that it was worthless. This discouraged many, but not all. Before Mr. Longworth died, he changed his opinion, and sent hither for a stock of vines of this same variety. The vineyard I was speakiug of contains about four acres, set 6 by 8 ft., and trained on trellis; that is, posts 7 feet long and 5 feet above ground are set 10 feet apart, and three tiers of bail wire stretched from post to post, by turns around strong nails. Wire is considered cheaper than slats. The vines are tied with twigs of golden willow. This is quite different from the Cinciunati method, which, briefly, is to plant thicker, to tie to single stakes, and to dwarf the vine. I saw very few grapes at Hermann, tied or trained in this way. In fact, I do not find a similarity of treatment in any two places I have visited." The land is prepared by trenching two feet at a cost of $75 or $100 the acre. "To expend so much in preparing the ground for grapes, will discourage some. It is more than a farmer ever expects to get in any one year, or sometimes many years, from an acre of land. The trenching, however, is only a commencement of the expense. At Hermann, the following is their account with an acre of Norton's Virginia; with the Catawba it would be a few dollars less, but only with the first item:

1,000 layer roots	$120	3,000 lath and nails, or wire	$18
Trenching	75	Labor first year	25
Planting	25	Labor second year	50
1,600 small stakes for first year, 18 in. long.	4		
1,050 posts	84	Total	$401

"It is expected that this $400 will be returned on the third year, or, at least, that the profits will pay expenses. On the fourth year there will be a full crop, as well as all following years. With the grape mentioned, they get 500 gallons to the acre, which was selling, new, when I was there, at $3 per gallon. In the spring it will sell for $3 a gallon; but thus far they have had none on hand at this season, so great is the demand." These facts will be mainly interesting to our Southern readers, as the Norton's Virginia is only half hardy, and will not succeed in the colder portions of the country.

Illinois State Horticultural Society.

LISTS OF APPLES ADOPTED.

The eighth annual meeting of this Society, was held at Alton, on the 15th of December, and was largely attended by members and delegates from other States. Some unknown friend has kindly sent us a report of the proceedings, from which we extract the following lists of apples. The State was divided into three fruit districts:

Northern Illinois.—All that portion north of the Logansport, Peoria, and Burlington railroad.

Central Illinois.—All lying between the above road, and the Alton and Terre Haute railroad.

Southern Illinois.—All south of the last road.

FOR NORTHERN ILLINOIS.

MARKET.	FAMILY USE.	
Summer.	*Summer.*	
Red Astrachan,	Early Harvest,	Willow Twig,
Car. Red June,	Car. Red June	Yellow Bellflower
Keswick Codlin,	Keswick Codlin,	Tallman Sweet,
Early Pennock,	Benoni,	White Winter Pearmain,
Sweet June,	Hocking,	Westfield Seek-no-further,
Autumn.	Sweet June,	Roman Stem,
Pomme de Neige,	*Autumn.*	Northern Spy,
Bailey Sweet,	Pomme de Neige,	Ramsdell Sweet,
Malden's Blush,	Bailey Sweet,	Swaar,
Fall Swaar,	Malden's Blush,	FOR TRIAL.
Lowell,	Fall Swaar,	Kirkbridge White,
Striped Gilliflower	Aut. Strawberry,	Dutchess of Oldenburg,
Ramsdell Sweet,	Holland Pippin,	Fall Orange,
Yellow Sib. Crab,	Lowell,	Northern Sweet,
Winter.	Rambo,	Fall Wine,
Wine Sap,	Striped Gilliflower	Montreal Beauty,
Rawles Janet,	Dyer,	Transcendt Crab,
Domine,	Mother,	White Pippin,
Jonathan,	Haskell Sweet,	Tompkins Co. King,
Willow Twig,	Yellow Sib. Crab,	Hubbardston Nonsuch,
Gilpin,	Fulton.	Broadwell,
Minkler,	*Winter.*	Newtown Pippin,
Tallman Sweet,	Wine Sap,	R. I. Greening.
Yellow Bellflower	Rawles' Janet,	
	Domine,	
	Jonathan,	

FOR CENTRAL ILLINOIS.

MARKET.	FAMILY USE.	
Summer.	*Summer.*	
Early Harvest,	Yellow June,	Jonathan,
Golden Sweet,	Early Harvest,	Pryor's Red,
Autumn.	Sweet June,	Swaar,
Bailey Sweet,	Red Astrachan,	White Winter Pearmain,
Malden's Blush,	Keswick Codlin,	Roman Stem,
Winter.	Golden Sweet,	Peck's Pleasant,
White Winter Pearmain,	Ramsdell Sweet,	Esopus Spitzenberg,
Domine,	Am. S. Pearmain,	Wine Sap,
Wine Sap,	Benoni,	N. Y. Pippin,
Ben Davis,	Car. Red June,	Rawles' Janet,
Willow Twig,	*Autumn.*	Newtown Pippin,
Rawles' Janet,	Malden's Blush,	Ortley,
Sops of Wine.	Fall Wine,	Lady Apple,
(upon rich limestone soils, and with high cultivation.)	Buckingham,	FOR TRIAL.
Newtown Pippin,	Bailey Sweet,	Early Joe,
	Fulton,	Downing's Paragon.
	Hub. Nonsuch,	Rome Beauty,
	Aut. Swaar,	Ladies Sweeting,
	(of the West,)	Sweet Romanite,
	Pomme de Neige,	White Pippin,
	Winter.	Nickajack.
	Domine,	

FOR SOUTHERN ILLINOIS.

MARKET.	FAMILY USE.	
Summer.	*Summer.*	Pearmain,
Early Harvest,	Early Harvest,	Pryor's Red,
Red Astrachan,	Large Yellow Bough,	Newtown Pippin,
Car. Red June,	Am. Summer Pearmain,	Rawles' Janet,
Autumn and Winter.	*Autumn and Winter.*	FOR TRIAL.
Yellow Bellflower	Rambo,	Yellow June,
Wine Sap,	Yellow Bellflower	Sine-qua-non,
Rawles' Janet,	White Winter	Porter,
Newtown Pippin,		Rome Beauty,
Pryor's Red.		N. Y. Pippin,
		Willow Twig,
		Nickajack.

These lists were made up by practical cultivators and will be valuable to our readers in Illinois, though it seems to us that the number of varieties selected is unnecessarily large.

About Seed and Nursery Catalogues.

These publications, though they have a restricted class of readers, are useful both to the publisher and the reader. Nurserymen are apt to think that a large catalogue, containing lists of every known variety of fruit, is necessary, and likely to bring customers by conveying an idea of the extent of their establishments. The fact is, that these large catalogues are confusing to all except experienced promologists; and a choice list of fruits, with brief and correct descriptions of their qualities, will best suit the wants of a large majority of purchasers. It is safe to say that more than half of the varieties which encumber the catalogues, may be stricken out of cultivation without injury to the cause of fruit culture. A few plain and practical directions for the planting of each kind, distance at which to set, and the after-treatment required, may appropriately accompany the list of varieties. Many of the catalogues now before the public, are very creditable to the establishments from which they are issued, being not only good as advertising mediums, but valuable as concise little treatises on fruit culture. We regret to say that there are some,—very few however,—who have made use of their catalogues to elevate themselves by maligning their brethren, and thus perverted their publications from their legitimate uses. Horticulture is benefited by a generous rivalry, and but few who follow it from a love for it, are capable of entertaining ungenerous sentiments toward their associates. If there be any who are bitter and ungentlemanly, we advise them not to publish the fact in their catalogues. Whoever does so should recollect that he brings disgrace upon his fraternity, impairs his own influence, and shuts himself out from the sympathy of all true lovers of horticulture.

Grapes in Northumberland Co. Penn.

The following from the Sunbury American will interest many of our readers, especially that portion which relates to the little known Creveling. This testimony has none the less value from the fact that the Editor, Mr. Masser, is an amateur cultivator, and is not concerned in the sale of any particular variety:

"The Creveling is a native of this section of Pennsylvania, and was taken from the forest some 20 years since, by Mr. Creveliug, who resided near Bloomsburg. It has also been called the Catawissa, from the place where it was cultivated by Col. Paxton and others. This grape is not only a 'fair grape,' but is decidedly one of the best of our native varieties. It resembles the Isabella in size and appearance, though perhaps larger and more nearly round. It is, however, a much sweeter and more highly flavored grape. In separating the stem from the fruit, the flesh that follows is red, which in the Isabella and Concord is white—but it is not as early as the Hartford Prolific by eight or ten days, though, perhaps, a week earlier than the Concord. This, at least, has been our experience, but different latitudes no doubt produce different results. The Hartford Prolific is the earliest grape we have, and with us was fully ripe the last of August. It is sweet, but rather thick-skinned, and has a tendency to drop its fruit when ripe. It is, however, a prolific grower and a good bearer, and being the earliest va

riety, deserves general cultivation. The Concord is not only hardy, but when fully ripe, sweet and highly flavored. It is a buttery grape, more solid than the Creveling, and, like the Diana, more compact in its clusters, and a better keeper. The Louisa and Clinton we consider no improvement on the Isabella, and hardly equal. They are, with us, but little if any earlier. The Diana is a vigorous grower and a prolific bearer. Being a seedling of the Catawba, it has some of its characteristics—but it is some weeks earlier and has a peculiar honey sweetness. It is preferred by many to any other variety, and though a third smaller than the Catawba, it is still larger than the Delaware. The Delaware is deemed a slow grower, although we have grown a vine the past season with two branches each about twenty feet long, it being the second season after plantiug, having been cut back to two buds. Proper planting with drainage, good soil, bone dust, etc., with occasional applications of soap suds, did the work, while another vine, not thus treated, did uot grow six feet."

Forest Trees from Seed — Evergreens.

It is a matter of surprise that in a new country like ours, there should be any scarcity of trees. We do not refer to the prairie regions, which are naturally destitute of forests, but to the longer settled and originally well-wooded portions, where wood for timber and fuel are now both scarce and dear. The settler in a forest country, from the hard work it costs him to make his clearing, learns to look upon a tree somewhat as his natural enemy, and the groves are cleared off without any reference to the future wants of himself or his successors. The evils of thus destroying the forests, without makiug any provision for their renewal, is being severely felt, not only in the lack of the material they furnish, but in the drying up of streams, and in the change produced in the climate of the regions thus denuded. From the many queries we receive about the growing of trees from the seed, not only from the prairie States, but from the older parts of the country, it is evident that there is an awakeniug to the subject of arboriculture—and doubtless before many years, the planting of forests will become as common here as it is in Europe. The planting of timber trees becomes a matter of absolute necessity upon the prairies, and in the Eastern States there are large tracts which can not be tilled, but which, if covered with trees, would yield a good return. As a general thing, the trees must be started from the seed, as natural seedlings usually grow under conditions unfavorable to the formation of good roots. While some kiuds may be raised in nurseries with as much ease and in the same manner as fruit trees, and afterward be set out in the plantation, others can not be transplanted, and the seed must be sown where the tree is to stand.

Even the hardiest forest trees are generally very delicate when young, and need shelter both from cold winds and from the sun. In the natural state, the seedlings are nursed by the undergrowth of shrubs, and in artificial planting, the rapidly growing and the hardier sorts are sometimes raiscd to act as nurses to the slow growing kiuds, or the seed is sown so thickly that the young plants shelter one another, the superfluous ones being removed as the growth progresses. It is probable that the introduction of the White Willow will be of benefit to tree culture at the West, as this grows rapidly from cuttings, and may often serve to protect the early growth of more valuable kinds.

The seeds of the various forest trees require such different treatment, that no general rule can be given, and it will be necessary to regard the peculiarities of each sort to ensure success. While some kinds retaiu their vitality for a long time, others must not be allowed to become dry, or they will never germinate. The seed of some maples and the elm ripen in the spring, and the plants are produced the same year, while the seeds of many other kiuds often lie a whole year in the ground before they come up.

The evergreens comprise some of our most useful trees, being not only valuable for their timber aud the shelter they afford, but for the cheer their foliage imparts to the winter landscape. The White (or Weymouth), Pitch, and Scotch Pines, the Norway and Black Spruce, Hemlock, European Larch, (not evergreen) Arbor Vitæ and Red Cedar, are hardy, and the best known and most useful of the *conifers*, while several species now cultivated for ornament only, will probably in time become common.

The seeds of most of those meutioned are borne in cones, the scales of which open and allow them to fall out. The seeds are small and have a thin wing which causes them to be distributed to a considerable distance by the winds. The cones should be gathered before they open and scatter the seeds; some of them open by simply placing them in a dry room, while others, like the Scotch Pine, open with difficulty. It has been recommeuded to soak these in water, and then dry them by artificial heat. A cultivator of our acquaintance breaks them up by boring through the cone lengthwise with a small bit; this breaks up the central stem, and the scales fall apart without injury to the seeds. The seeds can be purchased at the large seed stores; they should be of the previous season's growth, bright looking, plump and heavy.

In some cases the seed is scattered broadcast, trusting to the natural growth of shrubs to afford the requisite protection to the young plants. This method is very wasteful of seed, as much is destroyed by animals, and but very few can be expected to fall in spots entirely favorable to germination. It is much better to sow in a seed bed where all needed care can be given to the young plants. The soil of the bed should be fine, light, and rich, and the sowing should be in rows to facilitate weeding. The covering of earth should be very slight, ¼ to ½ of an inch being sufficient. To prevent drying, the surface of the bed should have a covering of leaves or light hay, which is to be removed as soon as the plants show themselves. A coating of sawdust is also used for this purpose, and has the advantage that it need not be removed. The young plants need shading, which is done by means of leafy brush stuck thickly over the bed, or made into a kind of screen or hedge upon the south side of it. A far better way is to make the beds in frames like those of a hot-bed, and shade them with gratings made of lath placed about ½ an inch apart. These will afford light and air, while they prevent scorching by the sun, and the frames break the force of cold winds. The young plants are kept in the beds for two years, giving the soil each winter a covering of two or three inches of leaves. At two years old the plants are set in good soil, in rows 3 feet apart, and 1 foot in the row, where they remain two years, when they may be put out in plantations, or receive another transplanting in the nursery, at a greater distance in the rows.

The seeds of the Red Cedar differ from the others we have meutioned, in being enclosed in little berry-like cones, the fleshy scales of which do not open. These seeds remain in the ground a year without germinating. They may be kept mixed with earth and buried for a year, and then sown. The treatment of other forest trees must be deferred to another article.

Native Broad-leaved Evergreens.

By the term evergreen, most persons mean the narrow-leaved trees and shrubs of the pine family, forgetting that there are a number of broad-leaved shrubs which keep their foliage all winter, and are properly included with the evergreens. In looking through the New-York markets about the holidays, we were struck with the enormous quantities of evergreens on sale for decorative purposes. They are brought in wagon-loads, and even vessel-loads, to meet the great demand. Among these were a number of our native broad-leaved shrubs which are so prized for in-door decorations, and we wondered why they were so seldom used to ornament grounds and gardens. They are beautiful for their foliage all the year round, and some of them are valuable for their flowers. They grow naturally in shaded locations, and when planted they should have a partial shelter from the hot sun. First among these we place the American Holly (*Ilex opaca*). The English Holly, so thoroughly associated with the Christmas festivities of the old country, is not adapted to our climate, but our native one is generally hardy, and nearly as fine. It is found as far north as Massachusetts, and is very abundant in New-Jersey. It is usually a small neat tree, though it is sometimes found 30 or 40 feet high. The leaves are thick, dark green and shining, and have several sharp spiny teeth on each side. The flowers are not showy, but the bright red berries which succeed them are very brilliant when contrasted with the dark green of the leaves. Being a very slow grower, the Holly in cultivation ranks as a shrub rather than as a tree, and as it bears cutting well, it makes an excellent hedge, the only objection being the time it requires to reach a suitable size. Plants may be had at the nurseries, or they may be raised from the seed, which usually remains in the ground for a year before germinating. According to Downing they start very readily if scalded with boiling water before sowing.

The Ink Berry is a pretty shrub belonging to the same genus. It is the *Ilex glaber*, and grows naturally in sheltered places with much the same range as the Holly. It is from two to eight feet high, with very slender branches, and with narrow, dark green, polished leaves. It bears jet-black berries, whence its popular name. The foliage is much prized by bouquet makers, and large quantities are brought to this city for sale to them. The common Laurel, *Kalmia latifolia*, is another evergreen very common from Canada to Florida, and though seldom seen in cultivation with us, yet from its fine foliage and large clusters of white or rose-colored flowers, it is one of the most prized shrubs in English gardens. It is a little difficult to transplant from its native localities, but is so fine a shrub that it is worth all the trouble it costs. It is found in both wet and dry situations, and in transplanting, those should be selected from the natural locality the nearest like that in which they are to be placed, and be removed in the spring, with a good ball of earth at the root. They may be raised from the seed, and small plants may be had at most of the principal nurseries, at a moderate price.

A Pretty Twiner—the "Star Ipomœa."

(*Quamoclit coccinea.*)

Every one who likes the "Cypress-vine," will be glad to know that it has an own brother which is a more rapid grower, and much hardier. This is the *Quamoclit coccinea*, a native of Mexico, and which, though naturalized in some of the warmer portions of the country, is but little known in cultivation. The plant was recently brought forward by one of our seedsmen under the name of Star Ipomœa, which will do well enough for a garden name, though it really belongs to the genus *Quamoclit*, and is not an *Ipomœa* at all. It has not the exquisite delicacy of foliage that characterizes the Cypress-vine, but excels it in the number, brilliancy and duration of its flowers, which in cool days keep open until the following morning. They appear in clusters of from 18 to 24, springing from the axils of the heart-shaped leaves. The engraving represents the flowers and leaves of the natural size. It is an annual, and its culture is like that of the Morning-glory.

Twiners and climbers differ in the manner in which they attach themselves to trellises or other supports. The twiners, like the Morning-glory, coil themselves around the stake or string, while climbers attach themselves in some other way. The sweet Pea climbs by means of tendrils, while the Nasturtium and some others coil their leaf-stalks around the support. They are very useful in gardens, either to cover unsightly walls and fences or to add variety when grown by themselves on suitable trellises. One of the prettiest supports is made of a young red cedar, with the limbs cut off to within about a foot of the trunk and left rough. Fanciful forms may be made with poles and cords, or wire, but to our taste the simpler these are made the better. It is a common mistake to make these supports too frail, as when loaded with vines they offer a large surface to the action of the winds, and are readily broken. Frames intended for annuals should be so arranged that they can be removed and housed for the winter; those for woody climbers are generally permanent. The Maurandias, Lophospermum, and Cobœa, are all fine for both flowers and foliage, and may be raised from seed, if started early in a hot-bed or green-house. It is, however, much better to get rooted cuttings from the florists. No class of twiners are more popular than the Morning-glories, and the nearly related Cypress vine, and in no plants have greater improvements been made than in the newer varieties of these. Both in size of flower and beauty of color the *Ipomœas, limbata, hederacea, Burridgii* and others are vastly superior to the common variety, and grow nearly as readily. With these and with the Cypress vine a fine show can be made. They are all very easily cultivated, asking nothing more than good garden mould, and ordinary attention. The seeds of the "Star Ipomœa" shown in the engraving, and of the other sorts mentioned will doubtless be on sale by most seedsmen this season. Our advertising columns will give the address of several reliable parties.

A Talk about Onions.

In the talks about cabbages in the two preceding numbers, it was shown that the eatable portion of the cabbage is merely an enormous bud, growing upon the end of the stem, the leaves of which it is composed, being thickened by an accumulation of nutriment; that in Brussels Sprouts this nutriment is mainly stored in smaller buds growing along the stem, and that these are accordingly the useful product; while in the Kohl Rabi, the stem itself is made to hold the nutritious deposit and becomes the eatable portion. In all these cases we appropriate as food that which the plant had accumulated, to be used the following year by itself in the production of seed.

In the present article we shall treat of the different varieties of onion in a similar manner, the object being to induce our readers to look into the real nature of the common things about them. The majority of persons, if asked, what is an onion? would probably reply that it is a root, and would be surprised if told that the eatable portion is, as in the ordinary cabbage, a large *bud*. It is a common impression that everything which grows underground must be a root; but the fact is, that not only stems but buds, and in rare cases, even flowers grow beneath the surface. It may seem difficult to see

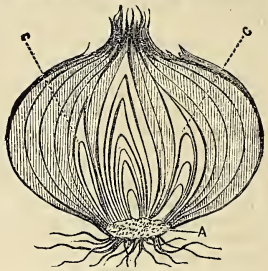


Fig. 1—VERTICAL SECTION.

at first any possible similarity between a cabbage and an onion, but a little careful observation will show that they are alike in *nature*, though so different in *character*.

To examine the structure of an onion, divide it by cutting through from top to bottom, and it will be found to present an appearance like fig. 1. The bulk of the onion is made up of scales, lying one over another, and these are really the thickened lower portions of the onion leaves. The leaves being hollow cylinders, their bases are similarly shaped, and when cut across, show a series of concentric rings, as seen in fig. 2. The scales are attached to the stem *a*,

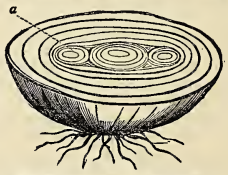


Fig. 2—HORIZONTAL SECTION.

fig. 1, which is so small that it might be overlooked. Though very short, being much broader than long, this is all the proper stem the onion has, and it bears leaves upon the upper surface, and roots from the lower one. During the first year of the growth of the onion from the seed, it is occupied in preparing material which is to produce flowers and seed the second year, and this is deposited in the bases of the leaves, which thicken up so as to form a more or less globe-like body, while their upper portions hav

Fig. 3—POTATO ONION.

ing done their work, wither and decay. It will be seen then, that the onion is not a root at all, but a large bud. That its nature is such as we have described, may be proved by examining one in a growing state, where the green leaves will

be found to terminate below in the thickened scales. Besides these scales, there are formed during the first year several small buds within the larger one, (*c*, fig. 1, and *a*, fig. 2,) which are on the short stem and in the axils of the leaves, just where most buds above ground are situated.

Now compare fig. 1, with the engraving of a cabbage as shown on page 13 (January No.); if the cabbage stem were reduced so as to be a narrow strip, the resemblance would be apparent, notwithstanding the difference between the leaves which make up the two. Note that we are not trying to show that an onion is a cabbage, or vice versa, but that both are *buds* of the respective plants, and that both accomplish the same end in a different though similar manner.

When the onion is set out in the spring, the little buds, *d*, grow and become bulbs at the expense of the nutriment contained in the scales which perish after the offspring has made a good start, and has leaves and roots of its own; these at length produce flowers and seed, and then perish. This is the career of the onion from the seed, or "black seed" as it is usually called, and it has for its object the perpetuation of its kind. The common onion is continued by seeds, but the same end is attained in different ways in other varieties. A variety called the Potato or Multiplier-onion does not bear seeds, but perpetuates itself without their aid. When this kind of onion is planted, the small buds, (*c*, fig. 1,) increase in size, but instead of throwing up flowering stalks, the lower parts of their leaves thicken up and form scales, and become a cluster of small onions, (fig. 3,) partly at the expense of the parent, and partly by the aid of their own roots and leaves. These small onions are planted out singly the following year, when they increase in size, and form a large onion having small buds within it as before, and which planted another year would produce another cluster of small onions, and so on for each alternate year. Here we see a plant may be kept on indefinitely without the aid of seeds.

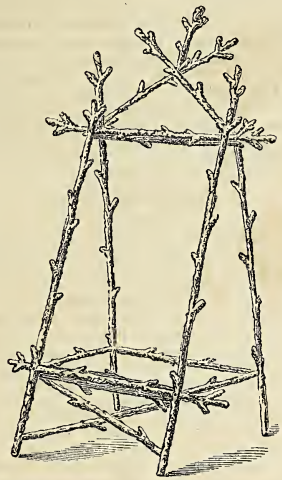
The Top-onion is reproduced in a still different manner; here the full sized onion when planted throws up a flower stalk, but instead of flowers, a cluster of little bulbs (Fig. 4) is produced in their place. We know that in fruit

Fig. 4—TOP ONION.

trees a flower-bud may appear in the place of a leaf bud. Here we have the position ordinarily occupied by the flowers filled by a cluster of bulbs, or what are really leaf buds. These little bulbs when planted grow to large onions, which in turn will produce a crop of small ones in place of seeds. As in the case of the Potato-onion, the variety is continued, though no seeds are borne. These last two are merely varieties of the common onion, in which certain peculiarities have become fixed by cultivation.

THE best cough mixture: A suit of warm clothing, mixed with plenty of air and exercise.

THE HOUSEHOLD.



A Rustic Carte de Visite Frame.

The engraving represents a very neat and tasteful frame for holding a *carte de visite* or other small picture, sent to the *Agriculturist* Office by Miss "M. L. M.," Glenwood, N. Y. It is made of slender twigs of some evergreen: larch is best. The parts are fastened together by common pins, and the whole is varnished over. It makes a pretty ornament for the mantel-piece or center-table, very easily constructed by every one. Any variation suggested by the fancy can readily be introduced.

How to Make a Good Cup of Coffee.

A subscriber to the *American Agriculturist*, "F. G.," gives the following directions: The best coffee is usually Java. Mocha, obtained from the city of that name, is no doubt best, but there is so little in market that it need not be considered here. Maracaibo is a good coffee, with a small bean, and it will brown well, and take on a good gloss, which not all coffee will do,—and this is an indispensability. A good article of coffee will be clear, and free from all taint. Coffee has a slightly bitter smell of its own. Let the coffee be as old as possible, as it is improved by age, though old coffee is very apt to have taken on a foreign odor.—First remove all imperfect berries, gravel, dirt, etc., and then put into a dish as much as can be successfully browned at one roasting. Unless you have a regular coffee-browner, use a flat iron dish, one somewhat thick: it should be thicker than sheet-iron, unless the bottom is very even, and sets evenly on the oven-floor. A dripping-pan is not so good as a spider or frying-skillet. Set on the stove until the moisture is evaporated. A hot fire is required for this. From half a pound to a pound, according to the size of the skillet, will do for a roasting. Put it into the oven, which must be somewhat hotter than is necessary to bake bread, and keep closed except when necessary to stir the coffee, which should be done every minute, always being careful to keep it well and evenly spread on the bottom of the vessel. With a knife or spoon, stir around the edge of the dish in a circle two or three times, and several times across. Be sure not to allow the grains to burn on the bottom, where the vessel touches the oven. This operation of stirring should be done as quickly as possible, for it is necessary to keep the heat as uniform as possible. [A more convenient way would be to cover the skillet with a pan, and then keep it shaking.—ED.] A slight smoke at first, gradually increasing, will soon conclude the roasting. Just at this point is the critical time. A little too much heat, and you have coal, which gives coffee a bitter taste. Rather, for the first few roastings, have a little less heat, so as to brown the coffee in twenty, instead of fifteen, or twelve minutes, as may be done. As it is, you will be apt to get into the coal now and then. But generally this is slight, and affects only a few grains. Pick these out, and also the yellow berries, which are imperfect, and have a bad taste.

When the coffee is done, it has the color of a chestnut, which is darker than the browned coffee of commerce; this also needs the above sorting. Such coffee is seldom browned enough, and is greatly improved by browning over, giving it the chestnut tinge which will increase its strength, and develop its flavor, that is still latent. Heat will set free this hidden aroma from the cells, but it will escape and be lost, unless arrested. This is done by at once removing the coffee from the oven when it is done, and putting it into a tight vessel, corking it well. We like a bottle best, as then the berry will show distinctly, and the process of improvement may be noted; for coffee, like wine, improves with time, both before and after browning.

Coffee, when browned as it should be, will have a coating of oil, which will gather more and more, and in spots. This is the fragrant oil that gives its fine aromatic, not pungent taste. Exposed to the air, all this escapes, as is the case with the browned coffee of commerce, which has no coating, no drops of oily perspiration, no fragrance,—only a harsh, grocery smell. We have kept coffee thus bottled and corked for a year or more, and found it better than at any previous time

The coffee is yet to be made. Take out what is wanted, and cork tight again. Grind as fine as possible. This is important. An old, well-worn mill is best; at least so we find it. Mix as much of the *white* of a *fresh* egg as will just moisten the coffee, without making it lumpy, otherwise there will be less strength obtained, as the egg when cooked will prevent the water from reaching the coffee. Next, fill with what hot water you want; put in the coffee, and boil four or five minutes. If ground very fine, a little less time will do. Then set off, and in a minute or two pour out. Immediately add sweet cream and pure white sugar. [If you have no cream use *boiled* milk.—ED.] And now for a point not generally understood: Let the coffee stand five minutes, stirring it occasionally: then drink. It takes five or more minutes for the cream to unite with the liquid; if drank at once, the cream is readily tasted. If permitted to stand, it will gradually deepen its color, until quite brown. The cream has then disappeared, and you have *coffee*

Pattern for Marking a Handkerchief.

The above very neat design for marking the corner of a pocket-handkerchief, may be readily copied upon traeing-paper, and then used in embroidering; or the pattern may be marked directly upon the linen with a fine-pointed pencil, by holding the two together against a window-pane.

About Paints and Varnishes.

Owing to the present high prices of paints and oils, several inquiries have recently been addressed to the *American Agriculturist* with respect to substitutes for the old materials. After some investigation, we can not learn of any thing new to take the place of Linseed Oil (that made of flax seed). This belongs to the drying oils, that is, those which when exposed to the air absorb oxygen and harden into a kind of resin-like solid. The chief of them is the linseed oil; belonging to the same class are the oils of rape seed, cotton seed, poppy seed, and of several kinds of nuts. The animal oils or fat oils, and the vegetable oils, will not dry to hardness. Some of them evaporate almost wholly. Linseed oil is the great basis of all drying paints. This dries slowly when raw, but boiling destroys the mucilaginous portions, and it then dries rapidly. In boiling for painter's use, a small quantity of red lead, litharge, or umber, is added to increase the drying properties; and when very rapid drying is required, some more of these materials in the form of "patent dryers," are added in mixing the paints.

Various substances are mixed with the oils to increase the body and to give color, the chief of which are white lead (a carbonate of lead oxide) and oxide of zinc. Zinc is as yet the most expensive, but has the advantage over lead for white paint in not being colored by gaseous exhalations, and is best for painting about sinks, privies, stables and such like places. Lead gives a heavier body, and is most used for the first coat; but, pound for pound, zinc whitens a much larger surface and is therefore not much more expensive, while its more permanent retention of a pure white makes it preferable for the last coat in all white painting. The different shades of color are given by small portions of various substances, as lamp black, chrome yellow, chrome green, Prussian blue, etc.

Paints when to be applied, are thinned with spirits of turpentine; but owing to the enormous increase in the cost of that article, a substitute has lately been discovered and applied, which answers moderately well. This is a product obtained in refining petroleum or coal oil, and is called by various names in different parts of the country, such as benzine, benzole, and naptha, all meaning the same thing.

VARNISHES are solutions of various resins, which are applied over paints to give finish and durability. The most extensively used varnish is the *copal*, made by melting gum copal, adding linseed oil and spirits of turpentine. In this also, benzine is being largely substituted for spirits of turpentine, but the varnish is not considered as durable, and until this point is settled, the turpentine varnish is to be prefered, at least for all good work, even though costing much more. The varnish is variously modified by the addition of more or less oil, to make outside and inside varnish, or coach varnish, furniture varnish, etc.

A Distressing Malady.

The following, which we find in the columns of an English journal, accurately delineates the effects of a mental malady which, if left uncured, will blight the peace of any household or society wherein the victim remains. If any reader here recognizes features of his own portrait, let him at once resolve reform: "Peevish people are always unjust, always exacting, always dissatisfied. They claim everything of others, yet receive their best efforts with petulance and disdain. Such men complain, too, of being ill-treated by their fellows. Ill-treated! The mildness of an angel and the patience of a saint could not treat these sour-tempered people in a manner that would satisfy them. The habit of peevishness grows upon a person until it renders him wholly incapable of conferring any happiness upon others. It distorts the imagination, and disorders the mind, so that truth cannot be distinguished from falsehood, or friendship from enmity. It is one great source of envy and discontent, poisoning the fountain of life, and scattering ruin and desolation on every side. Those who occupy their minds about anything serviceable to those around them are seldom peevish; it is only those who feed a disordered fancy with self-generated fiction that become misanthropic or grumblers. Then incessant fault-finding arises, which is as annoying as it is unjust. Did peevish people know, or could they feel, the effect of their reproaches on others, those reproaches would never be made. But the possessor of a peevish turn of mind thinks of nothing but himself. For others he cares nothing; while he claims the greatest deference for himself, he will not defer to others in the slightest degree."

The Child's Weekly Bath.

"L. S.," sends the following to the *American Agriculturist:* "Besides your vessel of warm water, castile soap, brush, and towels, have also a small vessel containing a pint of cold water in which is dissolved a tablespoonful of salt. As each limb, or part of the body is washed, *before wiping*, sponge over with the salt water. After the body is dry, rub a little sweet oil upon the chest, and upon all the joints, using friction with the hand until every part is aglow; this latter operation occupying about five minutes. Then let your child have light suppers, regular sleep, and plenty of exercise in the open air, and you probably will not see diptheria, blotches on the skin, or an emaciated face, but instead thereof, a healthful, ruddy, cheerful countenance.——The very same treatment will be worth $50 to any adult over forty years of age, as forestalling rheumatism, colds, coughs, and fevers."——[The bathing, or cleansing the skin, the smart friction, the exercise, and the light suppers, are all right; but we do not see the propriety or advantage of the "salt," or the "sweet oil," for general or constant use. A very little soap, to be washed off well with clean water; and a quick operation, to prevent any chill; a smart friction to remove the loosened excretions from the skin, and to start up a glowing circulation, are the essentials for the weekly or semi-weekly thorough bath.—ED.]

Various Customs—Forks versus Knives.

A lady contributor writes to the *American Agriculturist:* "In Henry the Eighth's time, a porpoise was a favorite dish in aristocratic circles; to-day, the meanest English beggar would disdain to partake of it. In our grandfather's time, a dinner of horse-flesh offered to a friend would be considered equivalent to an insult; to-day, many of the *elite* of Paris have it on their tables. As to frogs, we cease to ridicule the French in using them, for they are no longer a forbidden dish among Americans, but are found on the bills of fare at many eating houses. In our grandmother's time, people ate with their knives or forks or spoons, just as they pleased; it was etiquette to do as they liked—as it is said to be in the Court of Austria, at present. In this country, refinement has progressed so far that it is considered vulgar for a person to put his knife to his mouth. I have been amused to see the stress writers on etiquette lay on this little point. Half in earnest, and perhaps half in satire, is a soliloquy of the 'Antocrat of the Breakfast Table,' in one of his brilliant essays which says: 'In this democratic American republic, it is not improbable —though we have never yet had any President save of good family and high standing in society—that the people may raise up one of the common class, one of themselves, in fact, to the highest office in the nation. We will suppose it to be the case, and that this President should have as a wife, a refined and highly cultivated woman who tries in vain to have him overcome the little vulgarities that still cling to him; he will *eat with his knife*, and the lady wife in despair, puts her knife to her mouth too. How much easier to put it to her heart,' he adds tragically."——[The custom of carrying food to the mouth with the fork, came with more general use of silver or plated forks, made in convenient form for the purpose. Where these are not on the table, it would seem to be a matter of indifference which implement is used. It is absurd to attempt to rule any out of the pale of society merely because they have not kept up with all the changes and whims of fashion; for such a reason as this, none will be excluded but those whose only claim for admission is based upon their knowledge and observance of such trifles.—ED.]

How to Cure Hams and Beef.

Joseph K. Hulme, Burlington Co., Iowa, contributes to the *American Agriculturist*, the following directions for curing hams and beef, by which he says he has satisfactorily treated many thousand pounds of meat for home use and for market: Provide a sweet, clean, tight cask or tub. Weigh the meat, pack it neatly but not too closely, sprinkling a few grains of coarse salt upon each piece, and cover with a weight to keep the whole in place. Take enough clear soft water to cover the whole, and dissolve in it good Turks Island salt until a fresh laid hen's egg will float enough to show the size of a dime above the surface. For every 16 lbs. of meat, dissolve 1 oz. saltpeter in hot water, add 1 gill of molasses for each oz. of saltpeter, stir the mixture into the pickle, and pour the whole upon the meat, which should be entirely covered. Hams should remain in this pickle three weeks; then take them out to drain. If the brine be not strong enough to float the egg as before, add sufficient salt to bring it up. Replace the hams and let them remain four weeks longer. Then hang to drain, and afterward smoke them with hickory or apple-tree wood, until they are about the color of mahogany.

Beef should remain in the pickle six days, at first; then be removed and drained, and again replaced for six days longer. After this drain, and smoke, the same as hams. Meat so prepared is known in many places as "Jersey Red," and is of first quality.

Another Beef Pickle.—Mr. David Garrigus, of New-Haven Co., Conn., sends to the *American Agriculturist* the following: To 100 lbs. beef, take 4 quarts salt, and ½ an oz. saltpeter; rub the beef well with it, and pack closely, in clean barrels; let it stand a few days, and then draw off all the brine which has formed. (This first brine is bloody and would hurt the beef if left on.) Then make cold brine strong enough to bear an egg, adding ½ an oz. saltpeter and cover the beef with it.

Improved Buckwheat Pancakes.

"F. G." writes to the *American Agriculturist:* "The finest, tenderest pancakes can be made by adding a little unbolted wheat (or Graham) flour to the buckwheat. Less than a quarter will do. Mix with cold sour milk, or fresh (not sweet) buttermilk, which is best. The soda, (emptyings are dispensed with,) when put into cold batter, will not act satisfactorily. Bake at once. The heat will start the effervescence, and as the paste rises it will bake, thus preventing it from falling. Hence the culminating point of lightness is attained. The batter rises snowy and beautiful, and the pancake will swell to almost undue dimensions, absolutely the lightest and tenderest that can be baked, with not a touch of acid. More salt, however, must be added than is usual, to counteract the too fresh taste when soda alone is used. Thus the bother of emptyings is all dispensed with. Pancakes in this way can be baked at any time, and on the shortest notice. We keep our flour mixed, the Graham with the buckwheat, ready for use."

TAINTED BARRELS AGAIN.—The following method sent to the *American Agriculturist* by James Parpet, Warwick Co., Ind., is warranted by him to cleanse any vessel however strongly tainted. For a 40-gallon cask use 1 peck of unslacked lime, or about in that proportion. Place it in the cask and pour water enough upon it to make it the thickness of cream. Stir it well as it slacks, and turn the barrel to cover every part. After it has stood 24 hours,

wash clean with hot, and rinse with cold water, and let it stand in the open air two or three days. If the cask or vessel be very foul, repeat the process.

Hints on Cooking, etc.

Liebig's Soup.—Chop lean beef fine as for mince meat. Mix it uniformly with its own weight of cold water, heat it *slowly* up to the boiling point, and let it boil briskly for one or two minutes. Strain the liquor through coarse linen, add salt and other seasoning, and it is said to form the strongest and best soup that can be extracted from the meat.

Soup from Mince Pie Meat.—It may be new to some young housekeepers, that the liquor in which beef has been boiled for making mince pies, is worth something. We have known experienced cooks to throw it away. It contains materials for a good soup. After the meat is taken out, boil the water if necessary until it is strengthened by evaporation of the superfluous moisture, add vegetables and seasoning, and you have a good dish for the following meal.

To Finish a Baked Potato.—A housekeeper suggests to the readers of the *American Agriculturist*, that baking or roasting in the oven is the best way of cooking potatoes, with which all will doubtless agree. In the days of wood fires, roasting them in the hot ashes, was thought the best. She says that when they are sufficiently cooked, the quality will be greatly improved by cracking the skins open, and then allowing them to dry out a few minutes before taking them to the table.

Baked Squash.—Have any of the readers of the *Agriculturist* tried this? We suggested this method of cooking squash to a friend who had never heard of it before, and in a few days he came in to thank us for having given him a "new wrinkle." It may be new to some others, and to such we would say, cut up the Hubbard, or other fine-grained varieties, into convenient pieces, and bake as you would sweet potatoes. Children are very fond of it, and it is not bad for older people.

Scalded Cream.—In answer to an inquiry in January *American Agriculturist*, page 6, "E. H.," of Staten Island, writes: Strain the milk into tin pans, (those holding 8 or 10 quarts are the most convenient,) and let it stand 10 or 12 hours. Then carefully place it on the stove, or to prevent the milk from burning, on a pot of boiling water, until it is scalding hot, but not made to boil. Carefully carry it back to the dairy or milk room, and let it stand 10 or 12 hours longer, skim it, and you will have cream equal to any in Cornwall. This process is generally used in Devonshire, in dairies of 6 or 8 cows, and the cream finds a ready market in London, at the same price as butter.

Snow-ball Cake—Contributed to the *Agriculturist* by Mrs. A. W. Newell: 1 cup of white sugar, ½ cup of butter, the whites of 5 eggs, 1 teaspoonful of soda, and a little nutmeg; add flour enough to make a stiff batter; bake in patty tins.

Sponge Cake—Contributed to the *Agriculturist* by a subscriber: Equal weights of eggs and sugar (pulverized,) half weight of flour; beat the yolks and whites separately (very light;) mix the sugar and yolks first, then add one grated lemon and beat for 15 minutes, then add the whites and mix well; lastly stir in the flour and mix gently.

Home-made Candy—Contributed to the *Agriculturist* by Mrs. I. S. Kaler: To one cup sugar (New-Orleans is best), add one cup cider vinegar. If the vinegar be very sour, put in one-third water. Boil 15 to 20 minutes, then work till white. This is very nice, and when thus made at home you know that it contains no poisonous substance.

To Remove Rust Stains.—Mary A. Alter, Jasper Co., Ind., writes to the *American Agriculturist* that stains of iron rust may be removed from linen or cotton thus: Wash the cloth through one suds, and rinse. While wet, rub ripe tomato juice on the spots. Expose it to hot sunshine until nearly dry, and wash in another suds.

BOYS & GIRLS' COLUMNS.

A Talk about the Snow.

The snow that now whitens the fields looks like a great blank page, but if observed attentively, it will furnish many most interesting lessons. What makes it white? It has nothing mixed with it to give it so dazzling an appearance. When melted, it yields only pure and almost transparent water. If you carefully look at one of the small particles which make up a snow flake, it will be found as clear as glass. You know a sheet or block of ice looks much like glass, and that snow is composed of small bits of ice thrown loosely together. If we scrape shavings from a block of ice, they will be white like snow; if ice be pounded fine it will also show whiteness, and clear glass broken very fine presents the same appearance. Then this whiteness must in some way be caused by the fineness of the ice particles composing the snow-flake. Let us see if it can be explained. Light from the sun is white. When a beam of light strikes upon an object, part of it is thrown off again, or reflected as it is termed. The rest of it passes through the object if the substance be transparent, or is taken into it (absorbed) if the matter be opaque. Striking upon smooth polished ice, some of the light passes through, but much of it is reflected, as shown in fig. 1, where *L*, represents the direction of the ray falling upon the ice, and *E*, the course it takes when passing off. You observe that the angles or corners made by these two lines with the ice, are just alike; so that to perceive the beam of reflected light the eye must be in the line *E*. If the eye were in the dotted line, *C*, the direct ray from the sun or other light would not be perceived. Children sometimes amuse themselves with a bit of glass by flashing the light of the sun into the eyes of their companions, and to do this they must turn the glass so that the proper angle be made between the sun and the person's eye. This directly reflected light when coming from the sun, combines all colors and appears white. Now suppose that a multitude of small bits of ice, polished on every side, were thrown together promiscuously, the sunlight striking on the mass would be reflected in every direction. If there were enough of them, the eye looking at them from any point would receive many of the directly reflected rays, and the ice would look white. And this is just what occurs with the snow. It is made up of innumerable minute polished crystals of ice, as you can easily see by inspecting a newly fallen flake. The surfaces are turned in every direction, and each side or face of the crystal sends out its little beam of light; these enter the eye and the whole surface of the snow looks brilliantly white. The clear, perfect crystals will not, however, be found during every fall of snow. Certain conditions of atmosphere are necessary for their appearance.

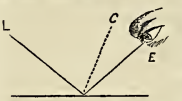


Fig. 1—ANGLE OF REFLECTION.

These snow crystals are very beautiful. They are of very many different forms, though all are made on the same general plan. Scoresby, a celebrated Arctic Navigator, observed *six hundred* variations. Several varieties

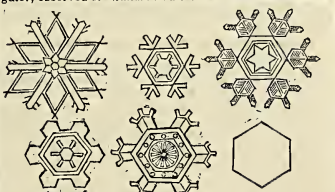


Fig. 2.—VARIOUS FORMS OF SNOW CRYSTALS.

may be detected with the eye alone, but they can be seen to the best advantage with a good microscope. To observe them, choose a time when snow is falling through a still atmosphere, not warm enough to melt them. Catch a flake gently upon some cold surface, and in looking at it, be careful not to breathe upon it, as very slight warmth will destroy the structure. Fig. 2, shows some of the enlarged forms as viewed through a strong microscope.

Many more very pleasing and instructive topics are suggested by snow, as for example, how it is formed; what benefits come from its being white, and from its being so loosely thrown together; why it is always found on high mountains, even in the hottest countries; what becomes of it in such situations, where it frequently falls but never melts, etc. We must leave these, for the present, for you to think of, and read about in books treating these subjects more fully than we have space for.

As Good as a Puzzle.

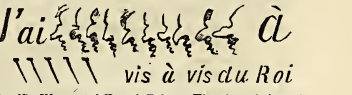
A schoolmaster is much needed in the neighborhood where the following handbill was posted up. The "Educator" from which we copy, vouches for its authenticity:

"bup Lick Sale for Land

Cun taining I'40 Acres of Land that Land Lace in Cumber Land County in Dickensan township that Land Lace between Wits town and hulley furnace near at gattesburger road that Land Chins Jacob rich Wins Land that Land Lace ner at Myers Saw Mill good Wortur on that Land good Matto on that Land 25 Acres of good Matto Crown on that Land good orget on that Land good Simmer Apels and good Vinter Apels on that Land good Cheres and good biches on that Land good Saw Mill Seet on that Land 3 houses on that Land one Cuchen Stove to Sale oxens to sale."

New Puzzles to be Answered.

No. 66. *Mathematical Problem.*—Divide the number 45 into 4 such parts, that if 2 be added to the first part, 2 subtracted from the second part, the third part be multiplied by 2, and the fourth part divided by 2, the sum of the addition, the remainder of the subtraction, the product of the multiplication, and the quotient of the division will all be equal.



No. 67. *Illustrated French Rebus.* The above is intended for those of our young readers who may have some acquaintance with the French language.

No. 68. *A Curious Word.*—What word of four syllables includes nine shorter words, which can be made without transposing any letters?

No. 69. *Mathematical Problem.*—A rich man gave to his oldest daughter a square plot of land, and a circular piece to his youngest. Each plot was worth $40 per acre. Reckoning a silver dollar to be 1¼ inches in diameter, the number of dollars required to surround each would just pay for it. Which daughter received the best portion, and how much was it worth more than her sister's?

No. 70. *Illustrated Rebus.* Specially for the unmarried.

No. 71. *Genealogical Puzzle.*—Contributed to the *Agriculturist* by Milden Luther, Broome Co., Iowa: In a certain company were present a grandfather, grandmother, two fathers, two mothers, two brothers, two sisters, two husbands, two wives, two uncles, an aunt, two sons, a daughter, two cousins, a nephew, a niece, and a grandson; and yet the whole company consisted of but five persons. How could this be?

Answers to Problems and Puzzles.

The following is the solution to the *Illustrated Rebus*, No. 65, January No., page 23. "Man y a man turning a little pail before the cannon's mouth eye snow cow ard," or, "Many a man turning a little pale before the cannon's mouth, is no coward." As we go to press earlier than formerly, we defer giving the solutions to the mathematical problems until next month, in order to give more time for sending in answers. The following have sent in correct answers up to the date of Jan. 8th. The numbers indicate the problems, etc., answered by each: Edwin Hill 59; Henry Martin Kellogg, 55; George F. Butterworth, 55; M. F. Moore, 61.

A CARELESS PRINTER.—The lady principal of a school, in her advertisement mentioned her female assistant, and the "reputation for teaching which she bears," but the printer—a careless fellow—left out the "which," so the advertisement went forth, commending the lady's "reputation for teaching she bears."

How can the trees put on a new dress without opening their *trunks*? They *leave out* their Summer clothing

"HAPPY LITTLE CHICKS."—*Engraved for the American Agriculturist.*

Who wants to be Rich?

Does the young reader sometimes say, "I wish I was rich?" Look at the above beautiful picture, and see how easy it is to be "richer than a king." How much is that baby worth to its brother and sister? No money could buy it of them. They would make a poor bargain in selling it for gold. Its smiles are brighter than dollars, its little laugh makes sweeter music than the clink of money, and its love brings more real pleasure than wealth can purchase. These "little chicks" are healthy, innocent, loving, and therefore happy; what could riches do more for them? The artist has added much to the beauty of the sketch by introducing the hen and her brood that come fearlessly to pick up the stray crumbs. It shows that these creatures have confidence in the kindness of the children. Good qualities, like grapes, are likely to grow in clusters. If the whole story of the picture could be known, no doubt we should find these children obedient, industrious, and the source of much comfort to their parents. How many such families does the *American Agriculturist* visit? Let *your* home be No. 1. on the list.

A Singular Tradition.

Among the Seminole Indians there is a singular tradition regarding the white man's origin and superiority. They say that when the Great Spirit made the earth, he also made three men, all of whom were fair complexioned: and that after making them, he led them to the margin of a small lake, and bade them leap in and wash. One obeyed, and came out of the water purer and fairer than before; the second hesitated a moment, during which time the water, agitated by the first, had become muddied, and when he bathed he came up copper-colored; the third did not leap until the water became black with mud, and he came out with its own color. Then the Great Spirit laid before them three packages, and out of pity for his misfortune in color, gave the black man the first choice. He took hold of each of the packages, and having felt the weight, chose the heaviest; the copper-colored man then chose the next heaviest, leaving the white man the lightest. When the packages were opened, the first was found to contain spades, hoes, and all the implements of labor; the second enwrapped hunting, fishing, and warlike apparatus; the third gave the white man pens, ink, and paper—the engines of the mind and the real foundation of the white man's superiority.

Rosa Bonheur and her Pictures.

Many of you have probably seen an engraving of the picture called "The Horse Fair" painted by a French lady, Rosa Bonheur. Her history is interesting, as showing what industry and plucky determination will do. Her father was a poor drawing-master in Paris, and apprenticed Rosa at the age of twelve to learn dressmaking; but her health failed and she left a business she did not like. She soon commenced to make models of animals, and copy her father's paintings, hoping some day to be able to support herself. She worked hard day after day, until her father noticed her wonderful progress, and gave her a course of instruction. He then sent her to the Louvre, the finest picture gallery in Paris, to copy from the best paintings. Here she used to work from morning until night. Soon her pictures began to sell for a small sum, which increased her diligence. She was then but sixteen years old. Having resolved to devote herself to painting animals, and being too poor to buy models, she used to take a bit of bread in her pocket, walk out into the country, and copy from nature. She would also visit the cattle pens in the city where animals were kept previous to being slaughtered. This was not a pleasant place for a young lady, but she was too much in earnest to be stopped by trifles. Her reward soon came. When nineteen years old, she received several prizes for her pictures exhibited in Paris, and at last took the gold medal for the best painting. At thirty-two, she finished the "Horse Fair," which brought her $8000, and from that time her fortune was made. She is now very wealthy, and the best animal-painter in Europe. Remember the secret of her success: *She loved her work and stuck to it.*

Lord Melville and his Pet Ram.

Lord Melville, of Scotland, had a large pet ram called "Bill," which used to follow him like a dog. One day he carelessly left the front door open, and Bill stepped in, and passed along into the drawing-room, where was a very beautiful glass mirror bought of a Spanish nobleman, for nearly a thousand dollars. No sooner did Bill see his image, than he gave a challenge to fight, by stamping, and "getting into his position," which, of course was answered by the image, and Bill dashed with all force against the glass, shivering it to atoms. A few years after, when the animal was slaughtered, a spoon and a hand some silver-mounted snuff-box were made of his horns, and Lord Melville gave these articles to his friend William Pitt, Prime Minister of England. Subsequently, Mr. Pitt, in writing to the Spanish Nobleman who formerly owned the mirror, mentioned to him the story of the ram. The Spaniard read the letter to the King, who was so much amused by the incident, that he sent Lord Melville a splendid mirror from his own palace. In return, Mr. Pitt presented the King with the snuff box made of Bill's horn, and we suppose it is now in the Palace at Madrid.

A Little Farming Talk.

When in his talks with the boys the Editor calls one by name, the rest may all think he means them too, if what he says is applicable to their cases. This time we want to have a talk with Tommy. Many tolerably good farmers near where you live are careless of their manure; they throw it out of the stable doors and windows and scatter it about the yard now and then, or they leave it in a heap against the barn, so that it rots the boarding, or it heats and fire-fangs, showing white mold all through the heap. Then, again, these farmers draw out the manure upon the land every now and then, and either leave it in small heaps for months or weeks; or perhaps the fields never see it, but it goes upon the garden and is spread about in the autumn to lie until spring before it is plowed in. Where manure is thus carelessly treated, the cattle usually are not stabled so as to save all their manure. Tommy, we want you to think this all over, and when you do your stable work, for probably you have to lend a hand at any rate in cleaning out the stable, as well as at milking and feeding, think how quickly horse manure ferments and decays. If it is not well cleaned out of the stable, it will soon give off ammonia and other offensive gases, which are very injurious to the horses' lungs, and to the eyes also. You do not want to do any thing which will give Dobbin a cough or injure his eyesight, for of all things which make a horse valuable none are more important than lungs and eyes. The stables therefore ought to be cleaned out every day.

Now what will you do with the heap that grows so fast in size by every day's additions? Is it good for anything? Of course it is.—Then save it so as to make it most valuable. "Half a loaf is better than no bread" to be sure, but if you will only save it you may have the whole. Don't let the manure lie long in the heap as it is thrown out, but if it must be kept unsheltered, spread it evenly in an oblong pile of convenient size, and spread each day's manure so that it will lie two or three inches thick, and then cover it with a thin layer of earth; dry muck from the swamp is better. When manure lies long in a heap it heats, and when it heats long it "burns," and this is a great damage. If it is packed very closely, by being trodden down by men or animals, it ferments slowly; when it is mixed with soil or muck, more slowly still. After it has begun to heat a little, and before the fermentation has progressed hurtfully, it is best to work it all over, mixing it thoroughly, breaking up the cakes and lumps, and bunches of straw, and making another compact pile, which will in turn need to be watched and worked over again, if it lies very long. We want our young friends to grow up first rate farmers, and one of the first and most important lessons to be learned is to take care of manure.

KISSING A SUNBEAM.—A babe, not old enough to speak or walk, was creeping on the floor. By and by a bright ray of sunshine fell upon the carpet. Baby saw it, and crept toward it, and all around it, with the greatest interest in her sweet face, and then putting down her little lips she *kissed* it.——Now was not that beautiful? The bright little sunbeam lighted up joy in her baby heart, and she expressed that joy with a sweet kiss.

THE WITTY SHERIDAN, while visiting at a country house, was asked to take a walk by a rather undesirable lady companion, but excused himself on account of the bad weather. She soon after caught him attempting to escape without her. "Well," she said, "I see it has cleared up." "Why, yes," he answered, "it has cleared up enough for one, but not enough for two!" This was too plain to be misunderstood and Sheridan was relieved of her troublesome attentions forever thereafter.

Business Notices, 90 Cents per Line of Space.

Special Notice about "Washing Day"

The proprietors of the **Nonpareil washing Machine** take pleasure in making known that they have effected an *improvement* in the Machine, by which the labor formerly required to work it is lessened about ONE-HALF.

The Nonpareil is now in use, more or less extensively, in all the loyal states. It has during the three years of its existence steadily advanced in public favor, and entirely by the force of its superior merit; for the proprietors have carefully abstained from *puffing* it into notice. A practical eye will readily perceive that the *Nonpareil* is constructed on strictly mechanical principles; and that in the crank and balance wheel are secured the only means by which *speed and power* can be obtained with comparatively little labor. When to these advantages are added the strength of material and careful workmanship which enter into the construction of the Nonpareil, the manufacturers believe they present a Washing Machine that will be found in every respect satisfactory to the purchaser. See advertisement and illustration on another page.

TO FARMERS.—Letters from those who were induced by advertisements in the *Agriculturist* to buy **Doty's N. Y. Clothes Washer,** evince high satisfaction with it. The price is still kept down to $10, notwithstanding the constant rise in materials, etc., and some valuable improvements. Rights of towns distant from the New York and Janesville manufactories are now offered for sale. Wm. M. Doty, 498 Broadway. **P. S.—I shall remove to 42 Park Row, on Feb. 1st.**

THE CRAIG MICROSCOPE.

And mounted objects combine instruction with amusement, the useful with the entertaining. This Microscope, in brass, is mailed, postage paid, for $2 25; or with six beautiful mounted objects for $3; or with 24 objects for $5. In hard rubber, for 50 cents, in addition to above prices. Address, HENRY CRAIG, 335 Broadway, New-York.

THE BELLEVUE,

Or perfected STEREOSCOPE, having a sliding focus and field-piece, accommodating all eyes, is mailed, pre-paid, for $2.40; or with 12 assorted views for $5; by HENRY CRAIG, 335 Broadway, New York.

DECISION
OF THE
COMMISSIONER OF INTERNAL REVENUE.

[OFFICIAL.]

TREASURY DEPARTMENT.
Office of Internal Revenue,
WASHINGTON, January 7, 1864.

Sir:—Your letter of the 4th inst. has been received, enclosing the Labels of the following-named articles: SALERATUS, BAKING SODA, CREAM TARTAR, O. K. SOAP, YEAST POWDER, BLUING POWDER, LIQUID BLUING, BOOT BLACKING, STOVE POLISH and WRITING INK.

In reply, I have to say that there is nothing contained in either of those labels which would render the articles sold under them subject to the stamp duty.

Very respectfully,
JOSEPH J. LEWIS,
Commissioner.

JAMES PYLE, Esq.,
350 Washington Street, New-York.

CITY AND COUNTY OF NEW-YORK, *ss:*

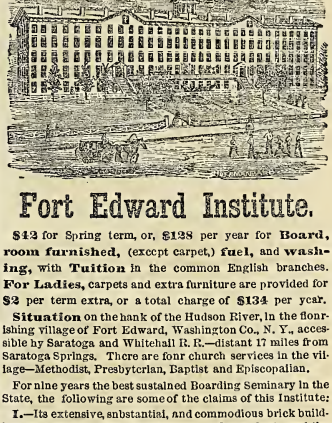
On the 9th day of January, 1864, before me personally came JAMES PYLE, No. 350 Washington Street, who being duly sworn, doth testify that the above communication was received by him from the Commissioner of Internal Revenue. JAMES M. TUTHILL,
Assistant Assessor Eight Division, Fourth District, State of New-York.

Lands—To All Wanting Farms.

Large and thriving settlement of Vineland, mild climate, 30 miles south of Philadelphia, by railroad; rich soil; fine crops; twenty-acre tracts, at from $15 to $20 per acre; payable within four years. Good business openings, good society. Hundreds are settling and making improvements. Apply to CHAS. K. LANDIS, Postmaster, Vineland, Cumberland County, N. J. Letters answered. Papers containing full information sent free.

L. C. HOOTEE & CO., Dealers in Patents.—We constantly hear of large fortunes being made by Dealers.

WANTED A SITUATION by a *thorough-going enterprising* American man, to take charge of a first class Farm. Address H. W. MARSELLUS, Amsterdam, N. Y.



Fort Edward Institute.

$42 for Spring term, or, **$128** per year for **Board, room furnished,** (except carpet,) **fuel,** and **washing,** with **Tuition** in the common English branches. **For Ladies,** carpets and extra furniture are provided for **$3** per term extra, or a total charge of **$134** per year.

Situation on the bank of the Hudson River, in the flourishing village of Fort Edward, Washington Co., N. Y., accessible by Saratoga and Whitehall R. R.—distant 17 miles from Saratoga Springs. There are four church services in the village—Methodist, Presbyterian, Baptist and Episcopalian.

For nine years the best sustained Boarding Seminary in the State, the following are some of the claims of this Institute:

I.—Its extensive, substantial, and commodious brick buildings, the sizeable and convenient rooms for students, and the admirable arrangements for the two separate departments.

II.—Its full and competent Faculty, in the various departments of study, both solid and ornamental, and the corresponding **extensive programme of studies provided every Term,** from which the student may select—constituting the Institute, in a practical and very important sense, a real **PEOPLE'S COLLEGE.** Thus: 1. At this Institute a good class is **always** preparing for Union or Yale College, or for the Wesleyan University. 2. Here all the approved appliances of the best modern Commercial College are in successful use, and a large class graduates each term. 3. There is provided here a **superior course of LIBERAL STUDIES,** classical, scientific and ornamental; and a choice **ECLECTIC COURSE** for proficients in Painting and Music. These courses attract constantly, and from a wide district, young ladies of the best capacities. As a **LADIES' COLLEGE** this Institute is believed to be unsurpassed either as to its facilities, or the number, character, or the culture of its graduates, by the most expensive or most pretentious Exclusive Female Colleges. From these liberal courses, young men are not excluded, hence very many choose Fort Edward Institute as the best available place of fitting for the duties of business and professional life. Not a few are attracted by the rare facilities the Institute affords for culture in original composition and oratory. To the advantages offered by four permanent Literary Societies, and the constant stimulus of good and critical audiences, is added each term the judicious award of valuable prizes.

III.—An important feature of the Institute is its outspoken **religious character.** The Principal—a Methodist Clergyman—stands pledged to the Christian Public, in addition to the daily Chapel service in which the religious element in all is recognized and appealed to, that the approved means of grace will be systematically employed to bring to Christ such irreligious students as can be induced voluntarily to attend upon them. A proscriptive or a proselyting sectarianism is neither practised nor permitted. Students representing the various evangelical communions are made to feel that they are thoroughly equal in all the privileges of the Institute, and are distinctly advised in their choice of a place of Sabbath worship—so far as practicable—to respect the denominational preference of their family.

IV.—The average maturity of its students, and the broad **National** character of its patronage, a majority of the loyal States, and the Canadas, being represented every year on its register.

V.—The unity of its administration, the governmental and financial head of the establishment having been unchanged from the opening, the accumulated facilities and experience of a series of years are thus made available to the present patrons of the Institute.

VI.—The remarkably low charges for Board and Tuition, in comparison with quality of the advantages afforded, and with other respectable Boarding Seminaries.

The Spring Term begins March 24th, and ends June 23d.

Good students admitted at any time, and charged proportionally to close of term.

For Catalognes or for rooms apply to
REV. JOSEPH E. KING, D.D.
Fort Edward, N. Y.

THE SUNDAY SCHOOL TIMES,

PUBLISHED WEEKLY.—ONE DOLLAR A YEAR. The cheapest religious weekly paper published; an influential organ of the Sabbath-School cause, and emphatically a Sunday-School Teacher's Paper, and a most interesting and valuable Family Paper. A specimen copy will be sent on receipt of a stamp to pay postage.

J. C. GARRIGUES & Co., Philadelphia, Pa.

Advertisements.

Advertisements to be sure of insertion must be received BEFORE the 15th of the preceding month.

TERMS—(invariably cash before insertion):
FOR THE ENGLISH EDITION ONLY. (14 lines in an inch)
Sixty cents per line of *space* for each insertion.
Business Notices 90 cents per line.
One whole column (144 lines), or more, $75 per column
In English and German, 65 *cents* per line; $90 per column.
German Edition alone, *Ten cents* per line; $10 per column.

Prairie View Farm For Sale.

For sale, a beautiful farm of 160 acres, situated near the Fox River in the town of Oswego, Kendall Co., Illinois, 34 miles from the station on the Chicago, Burlington and Quincy R. R., 2½ from the village of Oswego and 6 from the city of Oswego and 6 from the city of Aurora. The improvements are all permanent and particularly well adapted to stock purposes. A well furnished house, and large barn with stabling for 50 cattle. A thrifty Apple orchard, Peach, Plum, Pear and Cherry trees, both dwarf and standard; also all the small fruits with a good variety of grapes, most of the above in bearing. A fine Durham stock, horses, tools and household furniture will be sold with the farm if desired. For further particulars address the subscriber at Oswego.
P. PORTER WIGGINS.

MARYLAND FARMS.

We have for sale over 200 farms in this State, of as beautiful and productive land as ever the sun shone upon, having access by Rail Roads, Steamboats and Turnpikes. These Farms in many instances can be bought for less than the improvements upon them cost, in consequence of the change from slave to free labor.

As surveyors we have an intimate knowledge of the lands of this State. Enquiries by letter will be promptly answered.
R. W. TEMPLEMAN & CO.,
Real Estate Brokers, Baltimore City, Md.

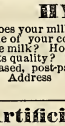
TWO moderate sized and exceedingly tasty Residences for sale, beautifully located, convenient to station at Maplewood, New-Jersey, about 16 miles from the city. Price low, terms easy. JOHN W. SHEDDEN, Druggist, Bowery, cor. 4th-st., New-York.

WANTED.—With or without capital, a young man to take an interest in an old established Nursery. For particulars apply to
DAVID J. GRISCOM, Woodbury, N. J.

THOROUGH Bred Ayrshire Cows and Bulls for sale by A. M. TREDWELL, Madison, Morris Co., N. J.

FOR SALE.—Two pure bred choice Jersey Bulls, one twenty months, the other ten months old. Address W. STANLEY, No. 16 Wall-St., New-York, or E. COUCH, Great Barrington, Mass.

PREMIUM Chester White Pigs.—Progeny of R. Hogs that have taken State and United States Premiums, sent in pairs (not akin) by express, to all parts of the Union. Price $8 to $20 per pair. Address N. P. BOYER & CO., Coatesville, Chester Co., Penn.



To Poultry and Stock Fanciers.—A few choice specimens of full-bred birds of following varieties for sale. White Faced Black Spanish, Gray Dorkings, White Dorkings, Game fowls, **all of the best varieties,** some from Imported Stock. Also English Lop Eared Rabbits, Chester Co., Pigs, and Cottswold Sheep of superior breeding Stock. Orders booked for stock purchases with me will receive PROMPT attention, and the best selections made. S. J. BESTOR, Hartford, Conn.

Brahma Pootra Cocks.

40 Last Spring birds, very fine, pure stock. They make an excellent cross on ordinary stock, greatly enlarging the size, making good market fowls, and excellent Winter layers. Weight of cock full grown, 10 pounds. Hen 7 pounds. Eggs, 7 to the pound. Price, $5 50 each, boxed and delivered at Express offices in N. Y. City. J. C. THOMPSON,
Tompkinsville, Staten Island, N. Y.

NOTICE.—THE 6th ANNUAL MEETING of the ASSOCIATION OF BREEDERS OF THOROUGH-BRED NEAT STOCK, will be held at the City Hall, Worcester, Mass., Wednesday, March 2d, at 10 A. M. A full attendance of members and others, interested in the objects of the society is expected. HENRY A. DYER, Sec'y.,
Hartford, Conn.

HYDROMETERS.

Does your milkman water your milk, and how much? Do some of your cows give richer milk than the standard for pure cream? How much different feed make in its quality? The HYDROMETER will tell. Sent neatly encased, post-paid, upon receipt of 50 cents.
Address HYDROMETER CO.,
Worcester, Mass.

Artificial Legs and Arms.

SELPHO'S PATENT, Established 24 years. The best substitutes for lost limbs ever invented. Can be had only of Wm. Selpho & Son, Patentees, 516 Broadway, N. Y. N. B.—Silver Medal awarded at late Fair of the American Institute, and New-Haven County, for best Artificial Limbs.

National Patent Office.

L. C. HOOTEE & Co., 229 Broadway, New-York.

For the sale of useful Patents. Responsible County and TRAVELLING AGENTS WANTED. Commissions 25 per cent.—All are invited to enclose stamp for our Circular issued monthly, in book form free, containing Terms, Notices of the Press, and full particulars. Reference, Hon. Peter G. Washington, New-York.
Hon. Horatio King, Washington.

SUPERHEATED STEAM will dry GREEN LUMBER beautifully, in four days, for fifty cents per M.; and Grain, Flour, Meal, Salt, White-Lead, Tobacco, Wool, Paper Bricks, Clothes, Fruit, Vegetables, &c., as cheaply. Circulars free. H. G. BULKLEY, Cleveland, Ohio.

LANE'S PURCHASING AGENCY.
FOR PURCHASING
Articles of Merchandise, Implements for the Farm, Garden and Household, SEEDS, &c.

Special attention will also be given to procuring **Sewing Machines; Pianos and other Musical Instruments; Philosophical and Astronomical Apparatus; Books for Schools and Colleges, and School Furniture.**

NO CHARGE MADE TO PURCHASERS,
BEYOND THE
Lowest Regular Price.

ORNAMENTAL TREES AND SHRUBS,
Suitable for Lawns and Gardens.

FRUIT TREES.
The best quality of Standard and Dwarf Pears—Apples—Cherries and Plums, etc.

STRAWBERRIES.
All the best Varieties.

GRAPE VINES,
Delaware, Concord, Iona, and other choice Grape Vines,

CASTOR POMACE.
$32 per ton.—$3 per bag.—Cheapest Ammoniate Fertilizer. Send for Circular.

Universal Clothes Wringer.

No. 1. LARGE FAMILY WRINGER		$10.00
No. 2. MEDIUM "	"	7.00
No. 2½ "	"	6.00
No. 3. SMALL "	without cogs.	5.00
No. 8. LARGE HOTEL "		15.00
No. 18. MEDIUM LAUNDRY "	to run by steam	18.00
No. 22. LARGE "	or hand,	30.00

THE NONPAREIL WASHING MACHINE.
Prices, No. 1, $12; No. 2, $16; No. 3, $20.
DOTY'S CLOTHES WASHER, Price $10.
THE AQUARIUS, A Hand Force Pump. Price $10.
WOODRUFF'S PATENT PORTABLE BAROMETER. Safe delivery warranted.

HARVEY B. LANE,
151 Nassau-st., New-York.

VERMILYE & CO.,
Bankers, No. 44 WALL Street,
WILL CONTINUE TO FURNISH
U. S. FIVE-TWENTY BONDS
as long as issued by Government at Par and Interest.
To BANKS and BANKERS the usual Commission allowed.
We also buy and sell at market rates:
U. S. One Year CERTIFICATES of INDEBTEDNESS.
U. S. COUPON BONDS of 1861.
U. S. 7-30 TREASURY NOTES.
U. S. QUARTERMASTER CHECKS.

Maturing Certificates of Indebtedness collected on favorable terms.

VERMILYE & CO.,
BANKERS, No. 44 WALL Street, New York.

FISK & HATCH,
No. 38 Wall-st., New-York City.
BANKERS AND DEALERS IN
All kinds of Government and other Securities. Orders from the Country for purchase of Government Bonds, etc., attended to WITH CARE and Promptness.

S. B. CONOVER,
Commission Dealer,
260, 261 & 262 West Washington Market,
FOOT OF FULTON-ST.
Particular attention paid to selling all kinds of Fruit and other Farm Produce.
Refers to the Editor of the American Agriculturist.

Sheppard, Seward & Co.,
Wholesale Dealers in
AMERICAN & FOREIGN SEEDS.
214 Pearl-Street, New-York.
Catalogues on application.

[From JOSIAH CARPENTER—32 Jay-Street, N. Y.]

A CARD.

NEW-YORK, January 13, 1864.

To the Editor of the American Agriculturist.

FRIEND JUDD: I received your letter of yesterday, making inquiries concerning me, in behalf of two of my customers. As you state that you have very frequent letters of inquiry concerning my business, responsibility, etc., I embrace the present opportunity to give you an insight into my business, in order that you may be prepared to answer your readers satisfactorily in the future.*

Two years ago I was first led to make my business more widely known, by your statement that "A GOOD, RELIABLE ESTABLISHMENT WAS NEEDED IN NEW-YORK CITY, WHERE FARMERS COULD SEND THEIR VARIOUS KINDS OF PRODUCE WITH PERFECT CONFIDENCE, TO BE WELL CARED FOR, WELL SOLD, AND PROMPT RETURNS MADE, AT A SMALL COMMISSION."

Such a business I had been, and have been trying to do, and, I am happy to say that the numerous testimonials of kind approval and satisfaction, from hundreds of my patrons who have never left me since they first were induced to entrust their produce to my care, gives me every assurance that success will continue to attend my efforts. These letters of satisfaction can be seen at my Principal Office, 32 Jay Street. (I say "Principal Office" because two other warehouses are required. Besides these, I have a Stand in the Wholesale Washington Market of this city, which gives me additional facilities for disposing of the produce consigned to me to the best advantage). Of my capital, and responsibility, you have, or can have abundant testimony, any moment.

My oldest shippers are the largest ones. Many having sent in small consignments have been so well pleased that they have induced others to send to me. I will mention one case in point. This day I received a four thousand dollar consignment from a party that was induced to send by one that had sent me a small shipment of produce in the winter of '62. I have never seen either of the gentlemen, but it is an old and true saying "actions speak louder than words."

During the last twelve months I have received and sold produce of every description from NINETEEN HUNDRED AND FIFTY FOUR (1954) DIFFERENT PERSONS, AND OUT OF ALL THESE I HAVE HEARD OF BARELY SEVEN (7), COMPLAINTS. I have advertised in your paper the *American Agriculturist*, for two years, and the first patron I had in consequence, is a patron of mine still. He has sent me over $13,000 worth of produce, and always expresses his satisfaction in the proceeds of my sales. In the time that I have advertised in your paper, I have had at least two thousand letters from parties that said "I HAVE SEEN YOUR ADVERTISEMENT IN THE *American Agriculturist*," and no doubt many others that have written to me and are now shipping to me, formed their first acquaintance in the same manner. It would always be a pleasure and satisfaction to me if persons would specify where they saw my advertisement.

ABOUT COMPLAINTS.—In so large a business as mine, it would be passing strange if there were not *some* complaints. There are many disadvantages that I am obliged to contend with. Many ship produce in good order, but not put up strongly or carefully enough to resist the usage of transportation, and their goods arrive injured and in poor condition, and the person shipping is disappointed in not obtaining the highest market price for a damaged article. Then again, farmers inquire or maybe read in some weekly paper that a FIRST CLASS article of produce brings a certain price, and supposing they have a choice article of the kind, because they never saw any better, they ship it to a Commission House with the full expectation of realizing the top of the market, and if the party the goods are sent to does not obtain that for his produce, he is charged with swindling or giving away the goods. He will go to the editor of the paper he saw the advertisement in, and not at all unlikely blame him because his inferior grade of produce did not bring the highest quotations. I am glad to say that these cases have not been very frequent, but they do sometimes occur. I will state a case in point: A person wrote to me for the highest price that quinces were selling for. I answered, that fine, large quinces were bringing $5 per hundred. He shipped me a number of barrels immediately, and such quinces as most of them were, I never before saw—many of them no larger than eggs, hard and knotted, and worthless. When I first saw them, I thought they would not sell, but with extra exertion I sold all but one barrel—that was thrown away. One purchaser of seven barrels had them still on hand, the last time I saw him, and although he bought them with eyes open, and with no false representation from me, he accused me of, to use a common phrase, "sticking him on them quinces."

Transportation Companies, like other "Corporations," "seldom have any souls," and the farmer is promised that if he will ship his produce a certain day, that it will arrive in market, or to the place consigned, on a certain day, and I often have letters complaining of neglect, before the produce reaches the City.

My business has been eminently successful, which I attribute to judicious advertising in good papers, and to strict personal attention to my business, and the employment of careful, skillful, reliable business help, all of which will be continued.

Your Obedient Servant,

JOSIAH CARPENTER.

*To save your time and trouble, in answering letters, if proper you will please insert this letter in your advertising columns, and send bill to me. J. C.

NEW FLOWER SEEDS.
J. M. THORBURN & Co's.,
ANNUAL DESCRIPTIVE CATALOGUE of Flower Seeds and French Hybrid Gladiolus for 1864,
has just been published, and will be mailed to applicants free of postage.
Send also for our CATALOGUES of
Vegetable and Agricultural Seeds.
TRADE LISTS for Dealers on application to
J. M. THORBURN & CO.,
15 John Street, New-York.

Early Vegetable Seeds for Hot Beds.
The following seeds, the best for early sowing in Hot-Beds, will be mailed post-paid, to any address in the Union upon receipt of the price affixed.

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Apples,	**Plums,**
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They offer a large variety of

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The Bone is well known for its lasting effects, and the night soil and guano for their quick action, the combination producing a fertilizer EQUAL to guano, and far superior to Superphosphate or ground Bones. Farmers using it during the past two years, speak of it in the highest terms. Price $45 per ton. Packed in bbls. of 200 lbs. each.

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Its "component" parts are:

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Is now manufacturing and prepared to supply Farmers and Dealers with **"Pabulette," "Chemical Compost,"** and **"Phosphate of Lime."** Fertilizers, which, for value and cheapness, have never been equalled. The Co.'s pamphlet circular sent to all who wish it.

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Are the only manufacturers of this description of Bell, either in this country or in Europe—the combining of certain metals, and the process of manufacturing the same being the discovery of the President of the Company. These Bells we can commend with great confidence to the public, for their cheapness and quality of tone. We furnish a 500 lb. bell with all the necessary appointments—including Harrison's patented Self-acting Rotary, for $100, and one of 1000 lbs. with like appointments, for $200. The price for the Bells being 15c. per pound, and that of the hangings of the first, $25, and those of the latter $35. Our circulars, containing full details, will be forwarded free of charge to all parties desiring the same.

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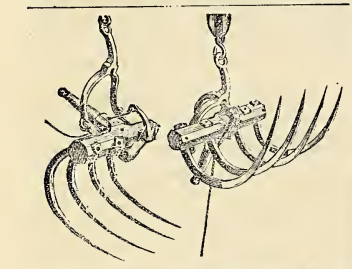

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Is of more general practical utility than any invention now before the public. It has been thoroughly tested during the last two years by practical men, and pronounced by all to

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Adhesive Preparation known.

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IT IS THE ONLY

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Extant, that is a sure thing for mending **Furniture, Crockery, Toys, Bone, Ivory,** and articles of Household use.

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Is in liquid form and as easily applied as paste.

Hilton's Insoluble Cement

Is insoluble in water or oil.

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Adheres to oily substances.

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Supplied in Family or Manufacturers' Packages from 2 ounces to 100 lbs.

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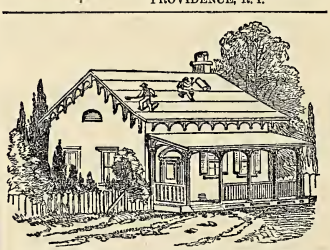

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These articles are put up expressly for the best class of family Trade, are strictly Pure, and full weight. A fair trial will convince any Intelligent housekeeper of the Economy of their use.

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These articles are designed for the Washing Department, and have gained a reputation which bids fair to place them in every house throughout the country. For the Saving of Labor and Expense we acknowledge no rival, and simply ask **one trial** to prove their superiority. All the best class Grocers have, or can readily get these articles. Some, however, endeavor to persuade customers that they can supply something as good or better, for the reason that they make a larger profit; but it is the Housekeeper's right to have preference, and the Grocer's business to furnish goods bearing the best reputation. All articles bearing the name of **JAMES PYLE** can be relied upon for purity and just weight.

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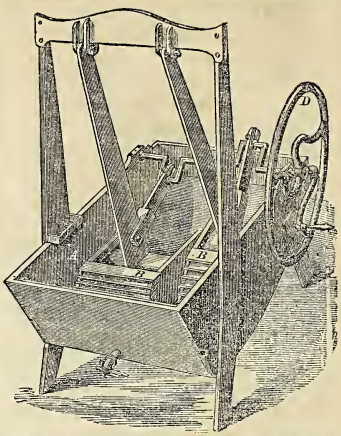

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Is the only entirely reliable machine in use.

It has been before the public nearly three years, and has not in any instance failed to give satisfaction.

It saves two-thirds the labor and time required in hand washing.

It is a squeezing machine, and will not injure the finest clothing.

A girl of fourteen years can operate it.

It will not get out of order.

It is recommended by Mr. Judd, the proprietor of this Journal.

Prices: No. 1, $12. No. 2, $16. No. 3, $20.

Send for free Circular to
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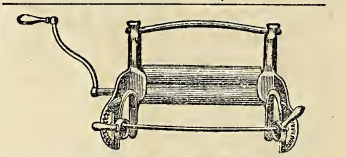

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The ONLY reliable Self-Adjusting Wringer.
No wood-work to swell or split.
No thumb-screws to get out of order.

WARRANTED WITH OR WITHOUT COG-WHEELS.

It took the FIRST PREMIUM at Fifty-seven State and County Fairs in 1863, and is, without an exception, the best Wringer ever made.

Instead of believing the statements of parties interested in the sale of other Wringers,

TRY IT, AND JUDGE FOR YOURSELF.

Test it THOROUGHLY with ANY and ALL others, and if not entirely satisfactory, return it.

It will wring any thing from a thread to a bed quilt without alteration.

Patented in the United States, England, Canada, and Australia. Agents wanted in every town.

Prices: No. 2, $5 50; No. 1, $6; No. A, $8.

Testimony of Messrs. Jno. W. Wheeler, of Cleveland, Ohio and Jno. C. Lefferts, of New-York.

PUTNAM MFG. CO:

GENTLEMEN.—I know from practical experience that iron well galvanized with zinc will not oxidize or rust one particle. I can safely say, after several years experience in the manufacture of chain, for chain-pump and water-drawers, in which I have tested the affinity of iron and zinc, that if the process be conducted properly, it is a perfect weld of the two.

Nearly one year ago my family commenced using one of your Wringers. It now performs all of its functions as well as it did the first time it was used, and has become an indispensable article with us. I have closely observed several other kinds of clothes-wringers, the modus operandi being different, trying to produce the same results as the Putnam Wringer, but in my judgement they have failed. The Putnam Wringer is as near perfect as possible, and I can cheerfully recommend it to be the best in use.

Respectfully yours,
JOHN W. WHEELER.

Many years' experience in the galvanizing business enables me to indorse the above statement in all particulars.
JOHN C. LEFFERTS,
No. 100 Beekman-st.

New-York, January, 1864.

Manufactured and sold, wholesale and retail, by
THE PUTNAM MANUFACTURING CO.,
No. 13 Platt-st., New-York, and Cleveland, Ohio.
S. C. NORTHROP, Agent.

STAMMERING.

And Stuttering cured by Bates's Patent Scientific Appliances.

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No Iron Frame to Break, or Rust, and Spoil the Clothes.

53,818 sold in 1863.

It was pronounced superior to all others at the World's Fair at London, 1862. It took the FIRST PREMIUM at the great Fair of the AMERICAN INSTITUTE, in New-York City, 1863.

It took the First Premium at the

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And at County Fairs without number.

SELF-ADJUSTING and ADJUSTABLE!

The only Wringer with the Patent

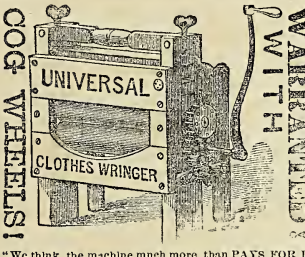
Cog Wheel Regulator,

which POSITIVELY prevents the rolls from

BREAKING, OR TWISTING ON THE SHAFT.

Without Cog-wheels, the whole strain of forcing the cloth through the Machine is put upon the lower roll causing three times as much strain upon the lower roll as when Cog-wheels with our Patent Regulator are used, besides the extra strain upon the cloth. Experience shows that Clothes Wringers without Cog-Wheels cannot be depended on.

In reply to the question, "How Long will it Last?" we can only say, "As long as a wash-tub, cooking-stove, or any other family utensil." See testimony of ORANGE JUDD, of the American Agriculturist, No. 41 Park Row, N. Y., who says of the



"We think the machine much more than PAYS FOR ITSELF EVERY YEAR in the saving of garments! We consider it important that the Wringer be fitted with Cogs, otherwise a mass of garments may clog the rollers, and the rollers upon the crank-shaft slip and tear the clothes, or the rubber break loose from the shaft. Our own is one of the first made, and it is as GOOD AS NEW after nearly FOUR YEARS CONSTANT USE."

IT SAVES

TIME, LABOR, CLOTHES AND MONEY.

It is easily and firmly secured to the tub or washing-machine, and will fit tubs of any size or shape.

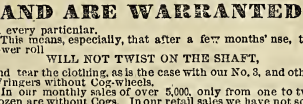
It is not only a PERFECT WRINGER, but the Cog-wheels give it a POWER which renders it a most

EXCELLENT WASHER,

pressing and separating as it does the DIRT with the WATER from the clothes.

It will save its cost every six months in the saving of clothes.

We have seven sizes, from $5.50 to $30. The ordinary family sizes are No. 1, $10, and No. 2, $7. These have



AND ARE WARRANTED

in every particular.

This means, especially, that after a few months' use, the lower roll

WILL NOT TWIST ON THE SHAFT,

and tear the clothing, as is the case with our No. 3, and other Wringers without Cog-wheels.

In our monthly sales of over 5,000, only from one to two dozen are without Cogs. In our retail sales we have not sold one in nearly two years! This shows which style is appreciated by the public. This is the only Wringer with the

PATENT COG-WHEEL REGULATOR,

And though other Wringer makers are licensed to use our rubber rolls, yet none are ever licensed to use the Cog-wheel regulator. Therefore, for cheapness and durability, buy only the

UNIVERSAL CLOTHES WRINGER.

On receipt of the price, from places where no one is selling, we will send the U. C. W., FREE OF EXPENSE. What we especially want is a good

CANVASSER

in every town. We offer liberal inducements, and guarantee the exclusive sale.

R. C. BROWNING,
347 Broadway, New-York.

Every Church, Sunday School and Private Family may have

A GOOD ORGAN

at a very moderate cost.

$85, $100, $110, $135, $165, $260 and upwards, according to number of stops and style of Case.

They are elegant as pieces of furniture, occupying little space, are not liable to get out of order; and every one is warranted for five years.

The **CABINET ORGANS**, introduced about a year since, and manufactured exclusively by MASON & HAMLIN, have met with success unprecedented in the history of musical instruments. Supplying a long felt want, they have been received with the greatest favor by the musical profession and the public, have already been very widely introduced, and the demand for them is still rapidly increasing, and must continue to increase as their merits become known. They go to private houses, Sunday Schools, and smaller churches, all that the larger pipe organs are to large churches. In addition to this, they are admirably adapted to the performance of Secular as well as Sacred music.

The **CABINET ORGAN** is essentially different from and a very great improvement upon all instruments of the Melodeon or Harmonium kind. Its superior excellence consists in many important characteristics, among which are:

1. The more organ-like character of its tones. Indeed, it is asserted with confidence that it has not yet been found possible to produce a better quality of tone from pipes than is attained in theso organs.

2. It has greatly more power and volume of tone in proportion to its cost.

3. By the employment of a very simple and beautiful invention, its capacity for expression is made vastly greater than has ever before been attained in such instruments. This invention is especially valuable, because scarcely any practice is necessary to render it available. Any ordinary performer can master it in an hour or two.

4. It admits of great rapidity of execution, adapting it to the performance of a greater variety of lively secular music.

5. No instrument is less liable to get out of order.

6. It will remain in tune ten times as long as a Piano-forte.

It may be reasonably said that if these instruments have the great and obvious superiority thus claimed for them, they must have received very warm recommendations from professional musicians who would naturally be most interested in the introduction of such instruments, and who are the best judges of their excellence. Such recommendations *have already been given to them*, to an extent unparalleled. Among those who have proffered written testimony to their admirable qualities and great desirability, and that they regard them as **unequalled** by any other Instruments of their class, are such well-known musicians as LOWELL MASON, THOMAS HASTINGS, WILLIAM B. BRADBURY, GEORGE F. ROOT, &c.; the most distinguished organists in the country, as CUTLER, of Trinity Church, N. Y.; MORGAN, of Grace Church; ZUNDEL, of Mr. Beecher's Church; BRAUN, WELS, WILCOX, TUCKERMAN, ZERRAHN, etc.; such celebrated pianists as GOTTSCHALK, WM. MASON, MILLS, SANDERSON, STRAKOSCH, etc.—In brief, more than two hundred musicians, including a large portion of the most eminent in the country, have testified to this effect. Each **CABINET ORGAN** is securely boxed so that it can be sent safely to any part of the country.

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We concur in the above.
A. S. BARNES & BURR,
Publishers, Booksellers, and Stationers,
Nos. 51 and 53 John-st., New York.

Boston, Dec. 18, 1863.
Our experience in advertising in THE WEEKLY TRIBUNE has satisfactorily proved to us that it is one of the best mediums for advertising in the country. We have often received what we know to be direct returns from it, and are only surprised that more do not avail themselves of your wide circulation. Yours very truly, WALKER, WISE & Co.,
Publishers and Booksellers.

New-York, Dec. 11, 1863.
Several years of quite constant use of the book advertising columns of THE TRIBUNE has satisfied me that through no other paper can a larger class of intelligent buyers be addressed. I have also found that, notwithstanding the apparent high rates charged for space, a most economical, as well as sure means for reaching large numbers of energetic men, and securing their service as agents.
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Boston, Dec. 9, 1863.
We consider THE WEEKLY TRIBUNE one of the best mediums for advertising our publications. Notwithstanding its seemingly high charges, its very large circulation renders it one of the cheapest and best means by which to reach the public. OLIVER DITSON & Co.

THE PROFIT OF ADVERTISING—A BUSINESS MAN'S EXPERIENCE.—The Rochester Express says: "We found the following letter from Mr. A. Morton, in THE NEW-YORK TRIBUNE, a few days since. Mr. Morton, as is well known, is the manufacturer of the celebrated Gold Pens advertised in our columns. He is one of the most extensive and judicious advertisers in the country, and we cordially commend his ideas on that subject to our business men. We do this in recognition of the value of THE NEW-YORK TRIBUNE as an advertising medium, and only add that we have reason to believe that in proportion to the expense required, an equally profitable result has been secured from his advertising in The Express. We give the letter as it appeared in THE TRIBUNE:"

NEW-YORK, July 1, 1862.

MR. GREELEY—My Dear Sir; You have done a great deal of work for me in the way of advertising, for which you have been paid so far as accounts current are concerned. But I owe you another obligation, which dollars and cents will not pay. Through your advice, and yours alone, I was led to advertise. For ten or eleven years I had carried on a fair business without advertising, and no man in my employ was ever out of work, except as a matter of favor to him, until the commencement of the present hard times. On the very day of the first call of the President for volunteers, having a large stock of goods on hand, I stopped my manufactory, and remained idle for nine months. I tried advertising at first, in a small way. I found that paid. At the end of three months I increased the amount more than ten times, using a great many papers, many of them pretty liberally; and for the last five months have advertised more extensively than, perhaps, any other one man in the country. My men are again busily at work on full time, although since December last, I have changed my system of business from six and eight months' credit to net cash. I now pay making more goods, and selling more goods, than at any time since the panic of 1857.

For all this, I am greatly your debtor, and I wish to say to you, and through you, to the world, that I now know that advertising pays. I have also learned that advertising very largely brings a much larger per centage of return than advertising in the usual way. Permit me also, in justice to you, to say that in my estimation THE NEW-YORK WEEKLY TRIBUNE is the best advertising medium on this continent, and although the amount I have expended in other papers has been vastly greater than that expended in THE WEEKLY TRIBUNE, yet were I compelled to choose between this and all other papers in which I have advertised together, I would prefer THE WEEKLY TRIBUNE, as I firmly believe that my returns from it have been greater than from them all.

I think, therefore, that any one having a good article which he can sell cheap, and which is or ought to be in universal demand, who will fairly try THE N. Y. TRIBUNE, will not be disappointed in return, except agreeably.

Very respectfully, your much indebted
A. MORTON.

Address THE TRIBUNE, No. 154 Nassau-st., New-York.

Profitable Employment.

Young Men and all Men

out of employment,
may find a good business in selling our NEW and POPULAR

Maps, Charts, and Pictures.

Among our recent publications are
THE
GREAT COUNTY MAP of the UNITED STATES.
Price in sheets 50 cents. Mounted on rollers at $1.25.
THE REBELLION AS IT WAS AND IS.
Price in sheets 30 cents.
A splendid Equestrian Portrait of

Gen. Grant and his Staff,

with an Authentic Biography on paper, 28½x38 inches—Price 30 cents.
Samples mailed post-paid on receipt of the advertised prices.

AGENTS

Should send for our terms and notice our fine assortment and low prices.

H. H. LLOYD & CO.
81 John-St., New-York.

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The oldest and Best Magazine,

MERRY'S MUSEUM.

Vol. XLVII of this most popular work commenced Jan. 1st, 1864. It is filled with stories, instructive articles in History, Biography, Natural Science, etc., by the best writers for children, with beautiful engravings, and an unequalled

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Every scholar knows its value.
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The most complete Dictionary of the Language.
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The best guide of students of our Language.
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He will transmit his name to latest posterity.
[*Chancellor Kent.*]
The etymological part surpasses anything by earlier laborers.
[*George Bancroft.*]
Bearing relation to Language the Principia does to Philosophy.
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Excels all others in defining scientific terms.
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So far as I know, best defining Dictionary.
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Take it altogether, the surpassing work.
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G. & C. MERRIAM, Springfield, Mass.

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BOOKS FOR FARMERS AND OTHERS.

[Any of the following books can be obtained at the office of the *Agriculturist* at the prices named, or they will be forwarded by mail, *post paid*, on receipt of the price. Other books not named in the list will be procured and sent to subscribers when desired, if the price be forwarded. All of these books may be procured in making up a library. We indicate our opinion of their value by one or more Stars.

American Bird Fancier	$0 25
American Farmer's Encyclopedia	5 00
American Florist's Guide	75
American Weeds and Useful Plants...**	1 50
Allen on the Culture of the Grape	1 00
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Allen's (L. F.) Rural Architecture...*	1 25
Barry's Fruit Garden...***	1 50
Bement's Poulterer's Companion...**	1 50
Bridgeman's Fruit Cultivator's Manual	60
Bridgeman's Young Gardener's Assistant	1 50
Bridgeman's Kitchen Garden Instructor	60
Bridgeman's Florist's Guide	60
Brandt's Age of Horses (English and German)...*	50
Breck's Book of Flowers	1 25
Browne's American Poultry Yard	1 25
Buist's American Flower Garden Directory	1 25
Buist's Family Kitchen Gardener...*	75
Burr's Vegetables of America...*	4 00
Chorlton's Grape-Grower's Guide	75
Cole's (S. W.) American Fruit Book...*	75
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Dadd's (Geo. H.) Modern Horse Doctor	1 25
Dadd's (Geo. H.) American Cattle Doctor...*	1 25
Dana's Muck Manual for Farmers	1 00
Downing's Cottage Residences...**	2 50
Downing's Fruits and Fruit Trees of America...***	2 00
Eastwood on the Cranberry...*	75
Employment of Women—By Virginia Penny...*	1 50
Every Lady her own Flower Gardener	25
Fessenden's American Kitchen Gardener	25
Fine Wool Sheep Husbandry	75
French's Farm Drainage...*	1 25
Field's (Thomas W.) Pear Culture	1 00
Fish Culture	1 00
Flint (Charles L.) on Grasses...**	1 50
Flint's Milch Cows and Dairy Farming...***	1 50
Fuller's Strawberry Culturist	50
Goodale's Principles of Breeding...**	1 00
Gray's Manual of Botany...***	2 50
Guenon on Milch Cows	60
Hall's (Miss) American Cookery	1 00
Harazthy Grape Culture &c	5 00
Harris' Insects Injurious to Vegetation, plain...**	3 50
do. do. do. colored plates.**	5 50
Herbert's Hints to Horsekeepers...**	1 25
Johnson on Manures...*	75
Kemp's Landscape Gardening	2 00
Langstroth on the Honey Bee...**	1 25
London's (Downing's) Ladies' Flower Garden...*	1 50
Lenchars Hot-houses	1 25
Liebig's Lectures on Chemistry	50
Leslie's Receipts for Cooking	1 25
Linsley's (L. C.) Movable Hives	1 25
Manual of Agriculture by G. Emerson and C. L. Flint.	1 00
Mayhew's Illustrated Horse Doctor...***	8 00
McMahon's American Gardener...*	2 50
Milburn on the Cow and Calf	25
Mistakes of Educated Men...**	50
My Farm of Edgewood	1 50
National Almanac and Annual Record...**	1 25
Norton's Scientific Agriculture	75
Olcott's Sorgho and Imphee...	1 00
Our Farm of Four Acres..... (paper)...*	30
Onion Culture...***	20
Pardee on Strawberry Culture	75
Parsons on Rose	1 25
Pedder's Farmer's Land Measurer	50
Phantom Bouquet, or Skeleton Leaves	1 00
Phin's Grape Culture	1 25
Quin's Mysteries of Bee keeping...*	1 25
Randall's Sheep Husbandry	1 25
Rand's Flowers for Parlor and Garden...**	2 50
Richardson on the Dog	25
Richardson on the Hog	25
Robins' Produce and Ready Reckoner	60
Rose Culturist	25
Shepherd's Own Book	2 00
Skillful Housewife	25
Smith's Landscape Gardening	1 25
Spencer's Education of Children**	1 25
Stewart's (John) Stable Book	1 25
Tobacco Culture	25
Todd's (S. Edwards) Farmer's Manual...*	1 25
Tucker's Register Rural Affairs	25
Turner's Cotton Planter's Manual	1 25
Watson's American Home Garden	1 50
Wood's Class Book of Botany	2 50
Yale College Agricultural Lectures	50
Youatt on Boomer on Horse	1 25
Youatt and Martin on Cattle	1 25
Youatt on the Hog...*	75
Youatt on Sheep	1 25
Youmans' Chemistry...*	1 25
Youmans' Household Science...**	1 25

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THE MOTHER'S JOURNAL

and FAMILY VISITANT is a practical Monthly Magazine for Mothers and the Household, substantial in matter, attractive in Style.
One Dollar a year; specimen copies, *ten cents*. Be sure and have it.
Send by mail, directed to *Mothers' Journal*,
335 Broadway, New York.

WANTED.

Agents are now wanted to travel in each County of the United States and Canada, and procure orders for Rev. J. S. C. Abbott's GREAT HISTORY OF THE REBELLION. Splendidly illustrated with Steel Engravings, Maps, Charts, &c., &c. In two volumes. First volume now ready. Second volume to be issued after the War. For an appointment as agent or for information apply by mail to HENRY BILL, Publisher, Norwich, Conn.

"THE HUMAN FACE DIVINE," a new system of Physiognomy, Eyes, Ears, Nose, Lips, Mouths, Head, Hair, Hands, Feet, Skin, Complexion, with all "Signs of Character, and How to Read Them," in THE PHRENOLOGICAL JOURNAL AND LIFE ILLUSTRATED for 1864. New vol. $1.50 a year. Address FOWLER & WELLS, N. Y.

From N. Y. Tribune, Dec., 1863.

Homes in New Jersey.

By Solon Robinson.

Agricultural Editor of the New York Tribune.

How to Settle a New Country—Vineland—The System upon which Large Tracts of New Land in West Jersey have been brought into Use—Hammondton and Vineland—Condition of the Settlements—Character of the Soil and its Products—Combined Efforts and the Result.

In the Autumn of 1861, I think about the 1st of September, I left New-York upon an exploring tour. I was going to a new country. You need not imagine that I was bound to Nebraska, nor Utah. There are wildernesses nearer to this great city. You may plunge into a very deep one in twelve hours' travel north-west, or in half the time south-west. Upon the present occasion I went southward. I was bound to the wilderness of West Jersey. Perhaps you are not aware, as you fly through the rich agricultural county of Burlington, that you are skirting the wilderness; that only a few miles further to your left, you could purchase 20,000 acres of wond land in one unbroken tract. It was such a tract that I was going to look at. I had heard of the successful settlement of 5,000 acres of new land at a place called Hammondton (derived from Hammond's mill, which was about the only sign of life on the tract; and that in its dilapidated condition had a decaying, deathlike look).

Now, everything around there looks life-like and prosperous. All around are neat, comfortable farm-houses, gardens, orchards, vineyards, flowers, fields of grain—plenty, comfort and happiness. It is no longer a wilderness. Seven years ago the wood-chopper and coal-burner held undisputed possession, and if any one inquired why the land was not cultivated, he was told that it was barren. Look at it now and tell me if you think it barren.

The leading spirit in working out that change, from scrub oaks to orchards; from pitch pines to fruitful vines, was Charles K. Landis, a native of Lancaster, Pa., who having accomplished his mission at Hammondton, looked about for a wider field. In correspondence with him, I learned his intentions, and went to see what he proposed to do at his new location. I found that he had purchased twenty thousand acres in Cumberland County, a few miles north of Millville, and some thirty or thirty-five miles southerly from Philadelphia. This tract has been held since the first settlement of the State by the proprietors of iron and glass manufactories, to furnish them wood and coal, and only here and there a little opening had been made for cultivation, until, two or three years previous to my visit, some very successful efforts had been made at farming. Although, at first sight, the soil appeared to be too largely composed of sand and gravel to be productive, a closer examination showed a fair percentage of clay, and that the land had been an ocean bed, and was filled with calcareous matter, which made it very productive of profitable crops, notwithstanding its forbidding appearance to one who had cultivated the prairie soil of Indiana, and was familiar with the bottom lands of the Mississippi. I was convinced by the fact that the land had born successive crops of wood, that it was not barren, and I stated my convictions in an article published in The Tribune, that this was a good new country for those desirous of emigrating from an old one, or seeking a new home in a milder climate than that of northern New-York and New-England. My motive then, as now, was to give trustworthy information about an interest which The Tribune tries to promote—the interest of those who desire to own land, and for want of abundant means, may have to make "new homes in the wood." I wished to tell them how and where. I did not know Mr. Landis, nor did I care for his success, only as it promoted the interests of the people who might wish information about his land. I will say that I was pleased with the man, for I found him, not wrapped up in sordid money-making plans. He had bought the land as a man buys merchandise, to sell, and it was an object with him, of course, to sell at a profit, and he appeared to exercise such tact in making his arrangements that while he would ultimately secure his object, he would also afford to a great number of people comfortable homes, at low prices for the soil, and by a sort of combination of interests, the new settlers would suffer much less of the inconveniences of a new settlement than usually attach to those who make homes in the woods. He evidently understood "how to settle a new country," and this is a point to which I would draw particular attention. I have had much experience in making new homes in the woods—once fifteen miles from neighbors. I have always found a great difficulty in the lack of combined effort. In the want of system—such system as cannot be practised where each individual acts independently—in opening roads for new settlements, and forming centers of business for trade, travel, mechanical and manufacturing works. The inconvenience of spending a week on a trip to mill can be appreciated by a few pioneers and only a few. In the settlement of West Jersey very few of the inconveniences of new settlers are ever felt. Let us see why.

In my first visit to the tract under consideration, I found Mr. Landis engaged with a corps of surveyors and axmen opening roads and plotting the tract into small farms and a site for a village in the center, and a railway station on the road from Philadelphia to Millville, but not an acre of land had been sold, though two or three new farms, previously located on the tract, were just beginning to demonstrate the productiveness of the soil, and gave me full assurance that the new settlement of "Vineland" would be equally as successful as Hammondton had already proved, and as there were four times as large, would afford more than four times as many homes for those in need, because it would support a larger commercial center. As I looked at the enterprise, in a utilitarian point of view, and not as a mere "land speculation," I said what I thought would induce others to go and see for themselves, and perhaps secure homes for their families, which they could call their own.

My second visit was made in October, 1863, and it gave me abundant reason to be satisfied with all that I said two years previous. Let me tell what change these two years have wrought in the wilderness. Of the satisfaction which individuals have expressed for my advice to them, I will only mention one case, though a good many others were equally satisfactory. Edgar Morehouse, after reading the article in The Tribune in 1861, wrote from Wisconsin that he was deaf and dumb; that he had but little capital and wished to have a home of his own, but that he was not satisfied with the climate of Wisconsin, and wished to know if I thought him a suitable settler for the new,cheap lands that I had described in Jersey. I had forgotten the circumstance, but he had not, as he met me a mile at Vineland and said with his pencil (pencil). "I am very much obliged to you for all you said of this place, and particularly for what you said to me in reply to my letter. I think you were right in the whole. You thought I had not quite means enough to come here, and that was true, but I came, and have got some employment besides upon my land, and have managed to pull through, and now you see I have got a snug little home for my family, and we are well pleased. And that is not all. I have planted The Tribune strawberries today, and I hope to live to eat the fruit and thank all the proprietors of that paper for it, as well as my home here."

Why should these people be satisfied with their new homes? Let us see. Instead of the wild scenes of two years previous, I found a village at the railway station, with two commodious hotel buildings, always full; several stores and workshops, and a school house, nearly completed, and a busy post office, but not a single grog shop upon the whole tract. I found three church organizations; Presbyterian, Episcopal and Methodist, and two church edifices under way. When it is known that the population, which then numbered about 1,500 upon the whole tract, is mostly composed of natives of New-England and New-York, it is needless to say that schoolhouses already exist; that schools and churches are not neglected.

I found that in these two years about 300 houses had been built, some of which were like other small, rude new country houses, though no log cabins are allowed, while many have all the indications of comfort, thrift, and even elegance. I also found the number increasing at the rate of a new house every day. At least locations were taken at that rate, and all purchasers are obligated to build within a given time, and also to make certain public improvements on the street, road, or avenue, by clearing off the front and planting shade-trees, and seeding it in grass. Every house, too, must be set at a uniform distance from the road, which for farms is fixed at 75 feet, and in town lots, 50 feet. The location of a house being chosen by the purchaser of a lot, is fixed exactly by Mr. Landis's surveyor, free of charge.

During these two years Mr. Landis has opened at his own expense 40 miles of public roads, mostly 100 feet wide, and these are grubbed out and made good for traveling as soon as farms are opened and the exigencies of the case require. One of these roads, leading east and west through the village, is in fine travelling condition six miles, and is to form part of a main road from May's Landing to Bridgeton, some 30 miles, between which points there has never been a direct road, because until now there was no inducement to open one.

At all the main road-crossings there is a plaza, of about an acre, and a larger one at the railroad-crossing at the village. Liberal provision is also made for church and school houses.

The town plat is laid off in lots 50 by 100 feet; price $100 each, "first served," and no change of price. The same rule holds with the farming lands, at $20 an acre; good or bad, first sold or last, it is all the same. The farm lots are laid off in forty-acre tracts, but can be purchased in regular sub-divisions, larger or smaller as may be desired.

At first it was required that each front should be fenced with boards or pickets; but that requisition has been dispensed with, as the settlers have determined to do without fence, and woe to any outsider's cattle that trespass upon the Vineland domain.

When I was first there the tract was almost destitute of passable roads, other than narrow, crooked paths, for hauling out wood and charcoal, except one north and south road, and that was never made nor repaired, and there were only three or four houses on that in a distance of six or eight miles. Now in half a day's ride in various directions, I was never out of sight of new houses, already inhabited or building. Most of the buildings are frame, though a very good building material can be had cheaply, of a more durable character than wood. This is a kind of adobe or concrete brick, made of lime, sand and gravel, of a peculiar character that abounds on the land. The bricks are made eight inches wide, eighteen long, and six inches thick and for a two-story house, 24 by 26 feet, with a one-story projection 12 by 26 feet, a contractor offered to make and lay up the walls for $108, the owner furnishing the stone foundation, for which there are convenient quarries of a sort of sandy ironstone. I observed that the new steam-mill is made of this matcrial, and the chimney of stone, which I conclude that the brick are strong and the stone fire-proof.

After all this description perhaps readers will think that I have not answered the most important questions—"Is this land productive?" "Can a poor man locate there and live?" "What are the products?" These questions I will answer; for although I have not the remotest interest, direct or indirect, in Vineland nor any other land, nor with anybody there, nor elsewhere who has, I have the common interest of humanity that makes me desire to see every wilderness changed from the abodes of wild beasts to happy homes for my fellow men, and therefore desire to see this experiment succeed, and if it succeeds then I may have to see a great many thousands of acres of similar land in New-Jersey, Delaware, Maryland and the Eastern shore of Virginia converted to some more valuable purpose than furnishing employment for a few half civilized charcoal burners and woodchoppers, rabbit hunters and cranberry pickers, such as have made up the population of large districts for many years.

To show what can be done I will relate a few facts of what has been done on the soil of Vineland.

Capt. Geo. L. Post was the first of Mr. Landis's purchasers. He was a refugee, if I mistake not, from Mobile where he left a comfortable home, and finding, on his arrival North, the necessity of creating a new one, settled upon one of the farm tracts at Vineland, in Dec. 1861, where he has built a nice house and good barn, and he and his boy, with very little hired labor, have fenced his plot and got ten acres under cultivation, and four more grubbed ready for the plow. I found them digging potatoes; the average yield was 140 bushels per acre, fertilized with a light dressing of superphosphate. Upon adjoining rows, dressed with a little horse-dung and green sand marl, the yield would be greater, and not near as great where more than that was used, no marl was used. Marl costs $1 05 a tun at the station, being bought by Mr. Landis in large quantities, and given to settlers in small quantities at cost. A tun contains about 20 bushels, and it is used in various quantities, from 20 to 200 bushels per acre, and is a very valuable manure. It appears to be particularly beneficial to grape vines, and the settlers are very rapidly making the place a real Vineland, for they have already started more than a hundred vineyards, and in some of them, which had no fertilizers whatever, I noticed a growth of canes 20 feet long the first season.

I noticed in the hotel garden as fine a production of vegetables of all kinds, particularly sweet potatoes, as one could desire. In various gardens I saw very thrifty pear and peach trees, and on the farm of a Mr. Gerow, formerly a clerk in The Tribune office, a very large plat of exceedingly thrifty strawberries. Everywhere the appearance of the Indian corn was beautiful, being just then in the perfection of its full growth and ripeness. I did not hear a single one complain of unproductiveness of the soil. Why should they? Here is the reason why not:

I found a reason quite sufficient for me upon one of the farms that I visited. It is owned by Robert Brandriff, three miles north of Millville, and the soil is of the same character as the most of the Vineland tract. Indeed this may be said to be a part of it, though it was purchased by Mr. B. ten years ago. He must have known the nature of the soil and its capabilities for he was then within two miles of his present location. He has 60 acres under cultivation, all of which he has cleared and fenced with his own hands. This farm is in a beautiful state of cultivation, and his crops show that it is profitable. It is so easily worked that he keeps one mule constantly sufficient for plowing. His principal reliance for fertility is upon clover; yet he told me until he was 17 years of age, he never saw grass grown as a crop. The study was how to get rid of it.

He farms upon what is termed the five-course system—that is, one year wheat, the ground for which is manured broadcast, if he has the manure to spare, which is not always the case. The wheat land is sown with clover-seed, and the crop cut two years, in June for hay, and in September for seed. The fourth year it is planted to corn without manure, and yields from 50 to 80 bushels per acre of shelled corn. The wheat crop ranges from 12 to 20 bushels, and will average 15; it was 18 this year. The clover hay sells at $12 a tun out of the field, which is equal to $20 when dry. The yield is always large, and the after-growth Mr. B. thinks of great advantage to the land. He plows in all kinds of green crops.

The fifth year of the course the land is well manured for a vegetable crop, principally potatoes, with a large patch of cabbage, which sells for two cents a pound and in a good season is very profitable, making, from 5,000 heads per acre, full $200. Beets, carrots, rutabagas, squash, lima beans, tomatoes, cucumbers, etc. grow well as part of the vegetable crop, which averages $100 per acre, and are all off in time for the wheat sowing, and leave the land in fine condition for that crop. Straw sells readily at $10 a tun, but Mr. Brandriff has learned better than to sell it for that. He prefers to feed it at home and convert it into manure. His system of farming does not permit him to keep much stock, but as he makes the most of everything for manure, he does not have to buy much. The two years in five of clover and one in wheat, with an after-growth that keeps the ground well shaded, holds it in good fertility. Indeed he considers his oldest fields the best, and as he has cleared and fenced his farm with his own hands, and has paid for it and good buildings with its proceeds, beside supporting a family, and "getting a little ahead," he is pretty well satisfied that he is not located in a barren country. Yet his farm is just what the whole region may be under the same system of cultivation, and that is why I have and do still advocate its settlement and conversion to usefulness. I recommend Vineland, because, while the land is held at a reasonable price, it is systematically managed, and a liberal share of the proceeds are expended by the proprietor in such a manner that every one enjoys the benefits, and every new settler feels the advantage here of a good neighborhood, such as isolated settlers in the woods cannot have. I do not say that other tracts are not good, but I do not know any that afford all the advantages that this does to those in need of cheap homes.

In conclusion, I ask one favor of my readers. Do not bore me nor The Tribune for further information. You have the name of the proper person to address; write to him, and not me.

S. R.

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☞ We respectfully solicit the kind efforts of all our readers in extending the circulation of this journal, the present month. If they each send only one subscriber now, the desired 100,000 will be far exceeded. Will the reader favor us with *one* of these names?—The old price is yet continued.

Special Notice to Advertisers.

It will be seen that the terms (given in the usual place) are slightly advanced, but they are still lower than those of any other journal—considering the large circulation, the select character of those admitted, the good style of printing, and the length of time each number is before the reader. Let any one who thinks his bill large, ask his printer to estimate the cost of getting up 85,000 to 100,000 cards or handbills of the same size as his advertisement. He will find it to cost nearly double our rates, to say nothing of the fact that the cards are here stereotyped—*fastened into the paper*—and distributed, not at random, but only one to each *reading* family. We shall *certainly* print 80,000 copies of every number this year, for subscribers, and probably 100,000 or more before ceasing to send out the first numbers of the volume. As before stated, we want none but good advertisements, and require reference as to integrity and reliability, from advertisers unknown to us personally or by reputation. We reserve the right to leave out any and all advertisements not desired for any cause.

N. B. We run four Steam Cylinder Presses (one for each side of the two sheets); but to print the engravings, etc., *well*, we can only perfect 6000 to 7000 copies a day; so we must start by the 15th of the previous month, and all advertisements *must* be in *before* that time. As only part of the good advertisements offered can be inserted, we leave out the last comers. Better send in copy by the first of the month, to secure insertion. This also gives more time for setting up neatly, and changing if desirable.

About the Advertisements—Suggestions to Our Readers.

I. It is often asked, "How can the *Agriculturist* be afforded so cheaply at the present time?" *Answer*—The greatly increased subscription, involving only the extra cost of paper, press-work, and printing, helps out in part; and the rest is done by admitting more advertisements and at higher rates. As more than enough are almost always offered, the only question is, how much space shall we give to this department? Even if the advertisements were not valuable to the reader, none would complain at the Increased room they occasionally occupy, when we tell them that during 1863 we *expended upon the paper* ALL the money received from subscribers, and some thousands of dollars more of advertising receipts. As we now pay $2.00 per ream more for printing paper than the average cost during last year, we must give up more space to advertisements, and condense more into the reading pages.

II. **But the Advertising pages are valuable to the readers,** especially when sifted as ours are. We do not say that every article admitted is wanted by all our readers, nor that every thing advertised is in all cases worth the price asked—of that the reader must judge—but we aim to admit no advertiser who will not do just what he offers to do, and we mean to shut out all deceptive or worthless things. We have refused a dollar a line for many medicines, etc., which are admitted into the religious press generally, but which we would advise a friend not to buy or use. We hazard nothing in saying that no equal numbers of cards of so good and reliable parties, were ever thrown together in a single copy of any journal, as appear in this paper. As a rule, our readers can send orders direct to the parties whose cards are found in the preceeding pages; or if the articles are not fully described, send for the circulars, catalogues, etc.

III. We advise a thorough examination of all the business cards. (Except the "Business Notices," they are inserted with no reference to choice of place, but in classes, or at the convenience of the printer; so that the last, the first, and the middle pages are of *equal* value.) They tell where, and frequently at what price, various articles can be bought. In this respect the advertising columns are like a good "Variety Store" brought to each man's door. This leisure winter month is a good time to look out for trees in advance, plants, seeds (now sent cheaply by mail), and for implements, etc.

IV. When sending orders, or for circulars, etc., please name in the letter, *where* the advertisements were seen. This, we are frequently assured, is especially pleasing to the advertisers: It tells them where they find Intelligent, **wide-awake men,** on the lookout for what is going on.

PREMIUMS for 1864.

Or Pay to Voluntary Agents who attend to Collecting and forwarding Clubs of Subscribers to the American Agriculturist.

Table of Premiums and Terms.

Open to all—No Competition.

Names of Premium Articles.

	Price of Premiums.	Names at $1 each.	Names at 50 cts. each
GOOD BOOKS—*See terms below* *			
A—American Cyclopedia (Appleton's New)	$36 00	130	250
B—Best Family Clothes Wringer	$7 00	19	45
C—Nonpareil Washing Machine	$16 00	40	90
D—Sewing Machine, (Wheeler & Wilson)	$45 00	98	195
E—Sewing Machine, (Wilcox & Gibbs)	$40 00	82	185
F—Woodruff's Mercurial Barometer	$8 00	20	63
G—Woodruff's Mercurial Barometer	$12 00	30	84
H—The Aquarius	$10 00	25	67
I—Five Octave Melodeon (best)	$90 00	190	350
J—Four Octave Melodeon (best)	$60 00	130	250
K—Seven back Volumes Agriculturist,	$8 88	28	54
L—Six do do do	$7 44	25	58
M—Five do do do	$6 20	22	49
N—Four do do do	$4 96	19	42
O—Three do do do	$3 72	16	38
P—Two do do do	$2 48	13	24
Q—One do do do	$1 24	..	13
R—Jacobs's Portfolio Paper File	$1 50	..	17
S—Osborn & Hodgkinson's Paints	$1 50	17	17
T—Premium Cylinder Plow	$10 00	33	76
U—Eagle Plow No. 20	$9 25	30	69
V—Hay and Straw Cutter (best)	$9 00	28	65
W—Steel-tooth Cultivator (best)	$7 50	25	58
X—Family Lard and Wine Press	$7 00	21	51
oo—Case of Drawing Instruments	$3 00	21	44

Postpaid, throughout.

No charge is made for packing or boxing any of the articles in this Premium List. The books, and the Premiums K, to S, inclusive, are DELIVERED *to any part of the United States and Territories, free of all charges. The other articles cost the recipient only the freight after leaving the manufactory of each.* ☞*Every article offered is new and of the very best manufacture.*

Full particulars in reference to the premium articles and the terms, are given in the January *Agriculturist*, page 25. We invite the continued efforts of our friends, in filling up premium clubs under way, and new premium lists may still be started. Many hundreds have already secured and received one or more of the above good articles. * The book premiums are to be selected from our list on page 62—to the amount of 10 cents for each subscriber sent in clubs at 80 cents; or to the amount of 30 cents for each name at $1 a piece. But no book premiums are given, where the club does not number at least 20 names. The books are *delivered free of cost*, by Mail or Express, to any part of the United States and Territories, and to the borders of the British Provinces. Many Farmers' Clubs have united their efforts, and by means of this premium, obtained a good Library.

N. B.—The varying cost of books and other articles, may require some change in the above premium terms, from time to time. The *terms*, therefore, hold good only for the particular month in which they are published.

CLUBS can at any time be increased, by remitting for each addition the price paid by the original members, if the subscriptions all date at the same starting point. The back numbers will of course be sent to added names.

Back Volumes & Numbers Supplied.

We have complete sets of Vols. 16, 17, 18, 19, 20, 21, 22, both unbound, and bound in neat covers with gilt lettered backs. Prices at the office: *bound* $1,50, *unbound* $1,00 each. Back Volumes are sent prepaid by mail, (*they can not go unpaid,*) *if bound*, $2.00 each; *if unbound*; $1.24 each. Single numbers of any of the above Volumes, 10 cents each.

Binding.—Sets sent to the office will be bound up neatly (in our regular style of binding) for 50 cents a volume.

American Agriculturist.

For the Farm, Garden, and Household.

A THOROUGH-GOING, RELIABLE, and PRACTICAL Journal, devoted to the different departments of SOIL CULTURE—such as growing FIELD CROPS; ORCHARD and GARDEN FRUITS; GARDEN VEGETABLES and FLOWERS; TREES, PLANTS, and FLOWERS for the LAWN or YARD; care of DOMESTIC ANIMALS, etc., and to HOUSEHOLD LABORS, with an interesting, instructive department for CHILDREN and YOUTH.

The Editors are all PRACTICAL WORKING MEN

The teachings of the AGRICULTURIST *are confined to no State or Territory, but are adapted to all sections of the country—it is for the whole* AMERICAN CONTINENT.

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AMERICAN AGRICULTURIST,

FOR THE

Farm, Garden, and Household.

"AGRICULTURE IS THE MOST HEALTHFUL, MOST USEFUL, AND MOST NOBLE EMPLOYMENT OF MAN."—Washington.

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American Agriculturist in German.

Each number of this Journal is published in both the English and German Languages. Both Editions are of the same size, and contain, as nearly as possible, the same Articles and Illustrations. The German Edition is furnished at the same rates as the English, singly or in clubs. A club may be part English, and part German.

Notes and Suggestions for the Month.

Aries stands as a warrior, waiting for the word "forward MARCH." For the Farmer, however, a backward March is decidedly preferable,—backward so far as vegetation is concerned, but forward in respect to dryness of soil and ability to plow and sow. There is little danger of American farmers making a retrograde movement in their important profession. Progress is the order of the day. The march of events indicates that we are to receive great accessions of European laborers the present season, most of whom will find their new homes upon the farm. The land is broad, the soil is deep, and its fertility inexhaustible under good management. Our necessities will secure them a welcome, even though selfish men disregard the broad principle at the foundation of our government, which makes this free country an asylum for the oppressed of all lands, and a field for every sort of productive or useful labor. It is for us to shape this mass of material by which prosperity in the immediate future (not less than posterity more remotely,) is to be so greatly influenced. The slow, diligent, plodding European gradually takes the American idea; his children grow up Americans. Let us then impart true notions of that progress and energy, which in our agriculture as in general business and mechanic arts have made us the most prosperous and progressive nation of the world. The genius of our institutions is to Americanize foreigners, while at the same time we learn from them all that we can which is new to us, or capable of new applications. It would be well if we could engraft some of their ideas of weedless, thorough culture, of fenceless farming, and other desirable ways of farm management.

The constellation of the zodiac through which the sun passes this month, is that of the Ram—not very well marked among the stars, but very appropriate to the season in which the good care of the flock is so essential to the success of the shepherd. There are probably more lambs dropped in April than in March, and it is desirable in this climate that this should be so, in flocks of fine wool sheep. Mutton lambs ought to come earlier, for they attain a much better size, and are sooner ready for the butcher. Breeding ewes should at once have good shelter, either in closed sheds or barn room, littered just enough to keep the fleeces clean, not filled with bulky, strawy litter, and provided with very free ventilation even on cold nights. As yet the interest in sheep breeding, which is so general among American farmers, appears to be of a healthy character. Prices paid for sheep have in some cases been extravagant, and the opportunities for fraudulent dealing, in selling to persons having limited knowledge of sheep, have perhaps been taken advantage of. Still when we reduce prices paid for sheep and wool to the gold standard, we shall find that at present they are not after all high enough to warrant any inordinate excitement, and that *aries*—now in the ascendant—really occupies a no more prominent position in our agriculture, than the importance of the sheep to the prosperity and comfort of the country demands.

Work for the Farm, Barn, and Stock Yard.

Buildings.—In this windy month secure everything so far as possible against damage by the gales. The great doors, whichever way they may swing, should be as sure to fasten, open, or shut, as window blinds. Paint is apt to get dusty or spotted and washed by the rain, if applied in March. Whitewash cattle stables, etc.

Cattle—Working oxen need to be in good flesh, or spring work will pull hard upon them. Cows coming in should be kept in wide stalls or loose boxes, well littered, fed some roots if possible, and closely watched and perhaps assisted at calving. Vermin are apt to appear at this season, especially on young cattle. Use the card and brush freely, and apply unguentum mixed with 4 or 5 times its bulk of lard, behind the horns and down the spine—a sure cure.

Cellars—Remove banking up, ventilate, clean out cabbage leaves and other rubbish, and whitewash well.—Foul cellars induce disease.

Clover—Sow on winter grain, on light snow or upon frost-cracked ground, on a still morning. The thawing earth will cover it finely.

Drains.—Surface-drain any land not free of water standing upon and in the soil. Clear the dead furrows in wheat fields—a shovelful of earth not removed may dam up water that may spoil wheat plants enough to yield a bushel. Examine the outlets of underdrains and the ground drained, for indications of obstruction.

Farm Hands.—Make early provision for help, if good hands can be obtained. See articles in Feb. *Agriculturist* and in present number on immigration. Pay good wages, and you can insist on faithful service. Permanent help is best.

Fences—When the frost is out of the ground and the soil still open and soft, reset posts and fences that have been lifted, and attend to all repairs, relaying stones in walls etc. Replace bars with gates, and thus save much time.

Grain Fields.—Roll winter grain, when dry enough, especially on soil much heaved by frost. Carefully remove silt and rubbish washed on during the winter, and draw off standing water.

Hogs.—Keep store hogs at work in the manure heap, and in working over the litter collected in cleaning up the yards and about the buildings. Breeding sows should have regular feeds of roots of some sort, even a very few raw potatoes will have an excellent effect. Sows are rarely cross, and never eat their young, if they are in good health, and at this season nothing promotes their health more, than raw roots, sods of grass roots, or other moist food.

Horses.—Bad roads and cold winds are very trying to horses. Give them good rubbing down after labor, and blanket carefully, if exposed to currents of air. Feed in proportion to labor. Strong muscles come from the grain bin.

Maple Sugar.—See hints on page 43, last No.

Manure.—Muck may be hauled, so long as the ground is hard. Most farmers have a choice of two evils, and must decide whether to haul out manure on the frozen ground and subject it to some waste, or wait till it can be immediately plowed under, at which time other labors will press and the hauling will be much harder.

Pastures may be improved by cutting the brush, and removing stones loosened by the frost. The cattle and sheep will keep the young growth of bushes browsed down, if they are cut over once.

Plowing.—We can seldom do much plowing in March, north of latitude 40. It is best to be ready for it—and on under-drained ground, and that of a porous character it is often feasible. See article on spring plowing on another page.

Potatoes.—Rub off the growing sprouts. Select early varieties for seed, and plant on very early ground, if the season be favorable.

Poultry.—Give hens a chance to pick at the first grass, chick-weed etc., that starts. It will encourage them greatly. Let not the high price of eggs hinder setting plenty for early chickens.

Seeds.—Try those on hand to see if all are sure to grow. Secure new and valuable kinds. Good plants will never grow from poor seed.

Sheep.—Separate breeding ewes, and follow hints given on the preceding page, and also on page 80.

Tools.—Repair broken implements, get duplicates of parts liable to break in ordinary usage—plow-points or shares, cultivator and harrow teeth, whiffle-trees, ox-yokes and bows, and the like.

Orchard and Nursery.

The intense cold at the beginning of the year has severely injured the trees in many localities. Wherever the bark is black and dead, cut the branches back to a good healthy bud at once, taking care that the bark does not strip while pruning.

Cherry Trees.—Plant as early as possible. Graft the last of this month or the first of next.

Cuttings of Quince, Currants, etc., put out early.

Girdled Trees.—Trees injured by mice or rabbits, as soon as discovered, should have a plaster of cow-dung and clayey loam, well beaten together and bound on with an old cloth.

Grafting —Read the detailed description on page 81. Cions may be cut. Get the necessary tools and materials ready. Cherries may be worked this month, but it is best to leave Apples until later.

Insects.—Examine trees received from the nursery to see that they do not contain scale or bark louse. Better burn up the trees than introduce this pest. Nurserymen should send out no affected trees. Scale may be removed from small trees by applying soft soap by means of a brush or swab.

Manures.—Stable manure may be spread liberally over the roots of trees. Cart out compost in heaps where it will be needed in spring planting.

Nursery Trees.—In taking up, preserve as many of the root fibres as possible. If to be packed for carrying far, put damp moss around the roots.

Planting.—Prepare the land by deep plowing, following the common plow with a sub-soiler. If the land is inclined to be wet, drain it. As soon as trees are received, unpack them and bury their roots. If the tops are at all dried, bury the whole tree in moist earth for a few days. Make the holes wide enough to spread the roots to their full length. Pare off smooth all wounds upon the roots. Cut back the last year's growth to two or three buds. Set the tree so that the upper roots shall be three or four inches below the surface. Extend and separate the roots and fill in with surface soil, taking care that no cavities are left. Work in the earth between the roots with the fingers. When the roots are covered with several inches of earth, press it down with the foot, then fill up the hole. Put a mulch of old straw, coarse manure, or chips, around the tree as far as the roots extend.

Pruning.—Remove only small or injured branches.

Old Orchards will be benefitted by scraping loose bark and moss from the trunks; wash with soft soap in water enough to apply with a brush.

Seeds.—Plant out fruit tree seeds kept over winter in boxes of earth, as soon as the soil is ready.

Stocks.—Cut back those budded last season to within 3 inches of the bud. Set out those root-grafted during winter, as soon as the ground is settled.

Kitchen Garden.

In following the suggestions given in the *Agriculturist* calendar, regard must be had to the forwardness of the season and the peculiarities of the location. Many will find them more suited to April than to the present month. In general, nothing is gained by working before the ground has become settled, and danger of severe freezing is passed.

Asparagus.—Fork in the covering of manure gently. Strew salt over, and use old brine upon the bed. Make new beds, using one or two-year-old plants; set one foot apart each way, in ground thoroughly manured, at least 18 inches deep. Sow seeds early, in drills one foot apart. See page 75.

Beans.—A few may be started in hot-beds for early use by sowing in sods, as directed on page 82.

Ashes will be very useful throughout the season. Preserve a supply under cover.

Beets.—As soon as weather admits, sow Early Turnip or Bassano on rich ground, in rows a foot apart.

Cabbages.—Sow in hot-bed Early York and other early sorts, and Winningstadt for second early. Sprinkle with ashes and plaster at the first signs of insects. Put out cabbage stumps for greens.

Carrots.—Sow the Early Horn, as directed for beets. Cover lightly, and water if the weather be dry.

Cauliflower.—Sow in hot-bed same as cabbage. Early Paris is good; also Extra Early Erfurt.

Celery.—Sow in a gentle hot-bed or cold-frame. Shade from hot sun and water as needed, till plants are up. Early White Solid is the best early sort.

Compost.—The heaps made last season should be turned over; break the lumps, pick out all rubbish and make uniform. If not sufficiently decomposed, add stable manure to start fermentation.

Cress, or Peppergrass.—Sow early in light, rich soil; cover lightly; apply ashes to keep off insects.

Cucumbers.—Sow seeds of Early Russian, and White Spined, in sods, as described on page 82.

Drains.—These will pay. If not able to do more, at least put tiles in the wettest places.

Egg Plant.—Put seeds in the hot-beds. Long Purple for early, Improved New-York for main crop.

Fences and Gates.—Make pig and poultry proof.

Horse Radish.—Dig for use and market. The roots may be kept a long time buried in sand. Start new beds by planting pieces of root one inch long at the depth of a foot, 10 inches apart, in rows two feet distant. A rich, moist soil is best.

Hot-Beds.—See description and notes on page 82.

Leeks.—Sow early, an inch deep, in rows a foot apart, in rich soil.

Lettuce.—Sow in hot-bed or cold-frame, very thin and shallow, and in the open ground as soon as practicable. Curled Silesian, and Butter, are best.

Manure.—Cart out to where it is to be used, and cover with earth if it is to remain for any time. Save hen and pigeon manure under cover.

Melons.—Start a few as directed for cucumbers.

Onions.—As soon as the ground is thawed, put out potato onions 4 inches apart, in 15-inch rows. Cover with a little straw till the leaves appear.

Parsley —Sow in a gentle hot-bed and in open ground in 1-foot drills. Soaking the seed a day in tepid water will hasten germination.

Parsnips.—Use or market, leaving finest for seed.

Peas.—Plant as early as the ground can be worked, and at intervals of two weeks, in a dry, warm place, occupied the year before by some well manured crop. Numerous new early kinds are in the catalogues. Daniel O'Rourke and Prince Albert need brush, and are good—Tom Thumb and Bishop's Long Pod are dwarfs, and need no brush.

Peppers.—Sow in hot-beds for planting early.

Plow, Subsoil and Trench as soon as the soil is dry.

Potatoes.—Put in early sorts. Start the sprouts in a warm room before planting. If cold weather has not passed, cover the rows with litter. The Dykeman is most grown around New-York—Early Sovereign and Ash-leaf Kidney are good.

Radishes.—Sow in hot-bed, and put in open ground as early as may be, at intervals of two weeks. Strew ashes and plaster to keep off insects. Give a rich and rather sandy soil. The Scarlet Turnip, Olive Shape, Early Frame, and Long Scarlet Short Top are among the best.

Rhubarb.—Put out roots as soon as the ground can be worked. Give plenty of manure and muck.

Salsify or *Vegetable Oyster.*—Dig as soon as the earth is thawed, leaving the finest for seed.

Seeds.—Order early. Use none of doubtful vitality. See basket note. Parsnip, carrot, onion, and salsify especially, are not safe if over a year old.

Spinach.—Uncover that wintered over, and stir the soil. Sow the round-leaved sort early.

Squash.—Put seeds of the early kinds in the hot-bed, as directed for cucumbers.

Tools.—If old ones have not been repaired and new ones bought, do it as soon as possible.

Tomatoes.—Start in hot-bed. Early and Large Smooth Red are the earliest. Fejee for succession.

Turnips.—Sow for early family use, in a warm spot, the Early Dutch, or Red and White Strap-leaf.

Winter Cherry.—Treat this the same as tomatoes.

Fruit Garden.

A deep, rich and well drained soil is essential, and in making new plantings this should be secured. Order new stock early, as there is a scarcity.

Blackberries.—The Dorchester is the earliest, and the New Rochelle the standard sort. Plant early, 6 feet each way, cutting old canes back to 6 inches.

Cherries.—Dwarfs may be planted in the fruit garden, but standards require too much room.

Currants.—Plant out cuttings made in autumn. If the buds have not started, make cuttings now.

Gooseberries.—Make and set out cuttings. Plant the American and Houghton's Seedling early.

Grapes.—Put out cuttings and rooted plants, as soon as the ground is ready. See article on page 84. Plant vines in rich, but not a close or wet soil, which has been worked at least 18 inches deep. Hartford Prolific, Concord, and Delaware are the hardy varieties. Diana good with protection. Creveling, Allen's Hybrid, Adirondac, Iona, Israella, and several of Rogers' Hybrids are promising and worthy of trial. Catawba and Isabella succeed in certain localities only. Do not be in a hurry to put up vines laid down in autumn. If not mannred last fall, give the vines a good surface manuring.

Raspberries.—Do not uncover until danger of frost is over. Make new plantations. Franconia and Hudson River Antwerp are the best red. Brinckle's Orange for yellow is a standard sort. The Black Caps are very prolific. See article on page 85.

Strawberries.—If new beds are to be planted this spring, prepare ground early, spading in a good supply of well decomposed manure or compost.

Pears.—Plant dwarfs early. If we could have but one pear, it would be the Bartlett; for two, add the Duchesse d' Angouleme, and for three, the Vicar of Winkfield.

Flower Garden and Lawn.

Operations here will depend much upon the forwardness of the season. Clearing up can be done, new walks made and old ones repaired.

Annuals—Sow in a gentle hot-bed or cold frame.

Cold Frames.—Give free airing on mild days.

Edging.—Reset box as soon as it gets unsightly. Lay grass edgings, and trim and repair old ones.

Hedges.—Thorn, Privet, Buckthorn, and other deciduous hedge plants may be set.

Hot-beds.—Make for starting early annuals and cuttings as directed on page 82. They pay.

Lawn—Remove dead leaves and fallen limbs, top-dress with fine compost, and reseed bare spots.

Perennials.—Take up, divide and reset.

Roses.—Plant as early as the ground can be worked. Tie up climbing roses.

Shrubs.—Plant and thin out hardy kinds. Those protected during winter should not be uncovered until the weather is settled.

Bulbs.—Partially remove the covering of hyacinths, or remove it wholly if the weather is warm, keeping it near by to throw over in case of frost.

Green and Hot-Houses.

Sudden changes without will require care in watching the fires. Ventilate freely whenever admissible.

Abutilons.—Propagate by cuttings. The *striatum* and *venosum* are desirable for borders.

Acacias in bloom need light, but little water.

Annuals.—Pot off all that are large enough, and sow others if an increase of stock is needed.

Azaleas.—Prune as soon as out of flower. Give plenty of air and sun while growing.

Bedding Plants.—Continue to propagate. Harden those already potted in a cooler house.

Camellias.—Inareh. Prune those out of flower into shape. Keep foliage clean and heat uuiform.

Calceolarias.—If pot-bound shift to larger pots.

Chrysanthemums.—Propagate by cuttings or by division of old plants.

Fuchsias.—Start old plants into growth, first pruning them. Repot young plants.

Heliotrope.—Make cuttings; repot rooted plants.

Lantanas—will need repotting.

Lemons, Oranges and Oleanders.—Remove scale from stems by soap suds applied with a stiff brush.

Pelargoniums.—Make cuttings of bedding sorts. Give plenty of light to those coming into bloom.

Roses.—Those which are to bloom out of doors should have larger pots.

Apiary in March.

Prepared by M. Quinby—By Request.

When the frost is out of the hives, raise them and scrape out all dead bees and filth from under the combs. After one or two days in which the bees have flown out freely, examine the hives to ascertain their condition. To do this, if box hives are used, invert them, having first quieted the bees, if necessary, by blowing tobacco smoke among them. Let the sun shine directly among the combs. In the strongest colonies the bees will nearly fill the spaces between the combs. If they extend only between two or three combs, the colony is weak and needs protection from robbers: contract the entrance so that but one bee can pass at a time. If there be sealed honey, there is not much danger of the colony starving in twelve or fourteen days. Delay feeding as long as practicable, but when it becomes necessary, place the material in the box on the top of the hive and cover it closely, allowing the bees access only through the top of the hive. Feed with honey, scalded, with a little water added, or with sugar dissolved to a syrup. To feed in the movable comb hive, remove au outside empty comb, and replace with sealed honey; or a comb may be filled by pouring a *small* stream into the empty cells. When a colony leaves its hive for want of provisions, if they cluster, return them to their own hive if it be in healthy condition, and feed them regularly. A colony may sometimes be found to all appearance dead, but unless they are absolutely frozen, they may not lose their vitality in a day or two. Place the hive near the fire, warm a few spoonfuls of honey or sugar syrup and pour it directly among the bees. Tie a cloth over the hive to detain them, and when they are warmed into activity return them to the stand and feed as before directed. In large apiaries, such cases may occur at any time before clover blossoms. Should the bees die in a cluster, and become mouldy and decomposed, cut out all affected combs, leaving only such as are in good condition. The presence of a queen is often ascertained by discovering eggs or any immature bees on the floor of the hive. Any clusters of dead bees between the combs may be removed with a large wire bent into a hook at the end. If any change is yet to be made in the stands, it should be neglected no longer. It cannot be done after they have been out a few times and marked their locality, without serious loss of bees, unless taken to a considerable distance. Should there be a light snow, observe the rules given last month. In many places some pollen will be brought in towards the last of the month. The value of flour as a substitute, will depend on the size of the apiary and the supply of early flowers in the vicinity. If there are but few bees, and there is an abundance of alder and swamp willows near, the flour is not very essential; but where there are many bees, it is quite important. One apiary fed last spring what would amount to an average of about 2 lbs. to the hive, swarmed three weeks earlier, and sent out three times as many swarms as any other in this vicinity. The result must be attributed either to the feed, or to the superiority of the "long billed" variety to which it was given. Buckwheat flour was not taken readily after they had feasted on rye. Rye is probably as good as any, and the bees seem to like it best unbolted; they appropriate the fine particles, leaving the coarser bran for cattle. During the first warm days, scatter this feed on the ground or grass, in some place out of the wind, near where you intend they shall work. To keep the meal from being wasted, spread it on a tight floor a few feet square, with a curb around the edge. It will not do to depend on flour to sustain colonies that are out of honey; flour is good only for the young brood; old bees require honey, or its equivalent. Hives kept in the house may be set out some fair, warm day. Put out a dozen, and in two hours as many more, letting each occupy their own old stand as far as practicable. Better let some remain over till another day, than to take all out at once, as many bees issue immediately and some get confused and enter the wrong hive. Should some colonies become very strong, others must be correspondingly weak. After flying out a day or two, put a *strong* one in the place of a weak one, and *that* in the place of the other. They usually become about equal the next day they fly.

Exhibition Tables at the Office of the American Agriculturist.

For the benefit of new subscribers, we state that the Office Room of this journal, 25 by 75 feet, affords ample space for a large exhibition of agricultural and horticultural objects of interest. Usually our tables present a very attractive appearance, at times exceeding that of many county fairs, and being centrally located, adjoining Printing House Square, and almost in front of the City Hall, our office is visited by thousands of persons weekly. All are invited to exhibit appropriate articles, fruit, vegetables, flowers, implements, household products, etc., and also to call and examine the collection. The winter months are less prolific in out-door production, but the following articles have been placed on the tables since our last report:

FRUITS.—*Apples:* Fine red apples for name, J. A. Coutant, Sing Sing, N. Y....Cogswell Pearmain; Edward Newberry, Brooklyn, Conn....Fine Specimens from Elberfeldt, Germany; Ernest Obrig, Brooklyn, N. Y. ——*Pears:* Five California Pears, weighing 13½ lbs., largest, 3 lbs. 8 oz., raised by R. G. Moody, San Jose, California; exhibited by E. W. Mattison, 36 Spruce Street, N. Y....Model of Large Duchesse Pear, weight of original, 35½ oz.; Dr. Ward, Newark, N. J.....Winter Nellis, in fine condition, Jan. 3d; Mr. Leverich, Brooklyn, N. Y....Cranberries, 4 varieties; Dr. S. Derby, Stanton, Mich....Pomegranate and Orange grown in Florida; Theodore Holt, Hilton Head, S. C.

VEGETABLES, ETC.—Fine Winfield Red Onion; W. T. Simpson, Rockford, Ill.....Prairie Seedling Potato, sample of 300 bushels per acre; Wm. S. Carpenter, Rye, N. Y....Large Red Onion, 2 lbs.; W. A. Byers, Denver, Colorado Terr....White Norfolk Turnip, 10¾ lb.; W. B. Miles, Manhasset Neck, L. I ...Carrots, sample of 500 bushels per acre, one weighing 3¼ lb.; James Keeley, Paranus, N. J....Garnet Chili Potato; F. Campbell, N. Y. City....Prince Albert, do., curious growth; S. H. Knapp, Bedford, N. Y....Colbrook Seedling; I. Camp, Norwalk, Conn....New Seedling; Wm. E. Palmer, Pleasantville, N. Y....Squashes, several Varieties; C. S. Pell, New York Orphan Asylum....California Gourds, very fine, and Crook-necked Squashes; John G. Schneider, Fishkill Landing, N. Y....Salsify, or Oyster Plant, fine growth; J. E. Chapman, Perth Amboy, N. J....Fine varieties of Corn; Edgar Griffin, West Hampton, L. I... Corn, 12 and 14 rowed; G. B. Valentine, Yonkers, N. Y. ....White Flint Corn; Jonas Tooker, Westfield, N. J... Mushrooms, very fine; Wm. Chorlton, Staten Island.... Connecticut Seed Leaf Tobacco; John Drummond, Gardener to Mrs. Strong, Newtown, N. Y.

MISCELLANEOUS.—Beautiful Bouquet of Flowers; Miss Cortelyou, Staten Island, N. Y....Fine named collection of beautiful Camellias; from Wm. Chorlton, Staten Island—amongst them, Fimbriata, Dunlap's Imbricata, Fordii, Myrtifolia, Lowii, Elphinstonii, Wilderii, Prattii, Mrs. Cope, etc. etc.....Hen's Eggs, very large, and very small; S. F. Bogert, Centerville, N. J.....Nutmeg, perfect fruit; O. G. Austin, Jersey City, N. J.....Suwarrow Nut; from Demarara, S. A.....Sorghum Sugar fine sample; made by George B. Wallace, Low Moore, Iowa; exhibited by J. B. Jones, N. Y. City..... Tree Labels of Slate, from Germany; A. S. Fuller, Brooklyn, N. Y....Leaf and Cane of Palmetto; John Yelter, Seabrook, near Hilton Head, S. C... Sorghum Syrup, sample from 1100 gallons, made in 1863; A. Fleming, Readington, N. J.

Notes from the Fruit Growers' Meetings.

A brief abstract for the four weeks ending Feb. 11th, is all our space permits.

Dr. Ward presented an apparently new pear, of large size, probably a seedling. Flavor fine, sweet, buttery, and firm to the core. It was found on an old thrifty tree on New York Island, which has borne for years past about 12 bushels of pears annually. Keeps till March, and the Dr. thinks it the best pear after the Lawrence is gone, which opinion was concurred in.

T. W. Field remarked that a *winter* pear was a rarity; those called such ripen in November. The Easter Beurre, about the only well known really winter sort, falls off prematurely and does not ripen up well.—Lawrence and Vicars prove the best late sorts.

Specimens of the Jonathan apple were shown and spoken of as one of the best sorts. Northern spy was considered a good shipping apple, much liked in England.

A. Parrish had known Northern Spy since its first introduction. The tree withstands northern winters better than almost any other kind, is an abundant bearer, and a good market fruit, retaining its freshness. He took 1000 bbls. Northern Spy, R. I. Greening, Swaar, Baldwin, etc., to Port Royal last season, and Northern Spy kept best, besides bringing $2 per bbl. more than other sorts.

Rev. J Knox, of Pittsburg, said concerning raspberries, for marketing he prefers Franconia, Brinckle's Orange, and Improved Black Cap. B. Orange is highest flavored; Franconia very good, solid, and a great bearer; while the Improved Black Cap is yearly becoming more popular, is perfectly hardy, an abundant bearer, and brings a good price. Fastolff does not do well with him—is too soft and does not yield enough; if confined to a single sort, give him Franconia. This variety does not sucker freely, and on this account nurserymen too frequently discard it.

Dr. Ward raised raspberries for 15 years—tried all the old sorts, and found nothing equal to Franconia, in size, productiveness, and market value;—has rows 10 years planted which bear as well as when first set.

E. Williams agrees with Knox on varieties—finds Improved Black Cap very prolific, obtaining a bushel from a single picking of a row 150 feet long. Can't get a stand of Hudson River Antwerp.

A. S. Fuller grows Franconia; can not get enough for orders. Belle de Fontenay best of everbearing, but of little value. Brinckle's Orange good, but don't take in market, which is the best guide for planting.

Samples of condensed cider from Gail Borden's manufactory were shown and commended. It was stated that he had put up 600 bbls. for army use. See page 78.

Solon Robinson thought that such an article would be a preventive of the scurvy in the army, and that soldiers, who paid $1.00 per dozen for small apples, at Chattanooga, would look upon this as a godsend.

R. H. Williams suggests, that grapes may by the same process yield a jelly, to be easily kept or transported.

At one of the meetings the Chairman, Mr. Wm. Clark of Massachusetts, thought more profit would result from discussing a regular subject, when Mr. Robinson proposed: "What influence does the stock exercise upon the graft?" A variety of views were expressed, some contending that the only effect of the stock was to hasten the bearing period, as the quince stock does the pear, and the paradise the apple. Others thought a finer, more delicate flavor imparted to the pear by the quince stock.

A letter was read from an experimenter, who said that to get late sorts of fruit we must plant seeds of late varieties, and early ripening kinds for early sorts. By grafting stocks from late seeds, with winter sorts, he maintained that the keeping qualities were improved.

R. H. Williams was of the opinion that the pear, planted on quince, seldom put out its own roots.

W. S. Carpenter would undertake to plant 100 dwarf pears and have 99 of them root from the pear.

Solon Robinson, in reply to the question whether sorts did not run out, or were not limited to the age of the tree from which the graft was taken, asked, if 200 years was the allowed life time of a pear tree and a cion were taken from it at the end of 199 years and grafted into a young stock, whether the graft would die the next year.

T. W. Field cited in proof that sorts did not run out with the decay of the original tree, that certain sorts had been in existence for a thousand years. To illustrate the long life of the pear, he mentioned some trees on the light soil of Long Island which were planted by Peter Stuyvesant in 1648, and consequently over 200 years old. They are still thrifty, are 9½ to 10½ feet in circumference, and bear full crops of what are called summer Bon Chretien—the same sort as the famous Stuyvesant tree on the corner of Third Avenue and Thirteenth street of this city, planted about the same time, by the same person.

Mr. Carpenter was of opinion that varieties do run out, and that putting them on young thrifty stocks would not save them. He instanced the White Doyenne pear and the Newton Pippin apple.

R. H. Williams thought the newer varieties of apples

did much better than the old sorts—the Doyenne pear was good for a hundred years and then failed—so too with some of the forest trees, as the Lombardy Poplar and Buttonwood.

Dr. Underhill thought the idea of sorts running out was an erroneous one, and instanced his own orchard of Newtown Pippins, which in common with many others began to fail 7 or 8 years ago—were literally starving. By applying liquid manure he entirely revived them and got as good fruit as ever before.

In reply to the question of change of locality, either north or south, A. S. Fuller remarked that, other things being equal, he should prefer southern grown trees to north, as the wood would be well ripened and better prepared to withstand the winter, than trees which had grown into cold weather, whose branches were still green.

R. H. Williams said, northern winter apples carried south, became fall fruit—the ripening process is checked by the cold weather at the north, and proceeds slowly in the cool cellar, while the long autumn at the south carries the fruit far toward the ripening period before it is gathered, hence the shorter season before its decay.

Messrs. Fuller and Carpenter would plant pears and other hardy fruit trees in the Fall, as sap starts in spring before they can be transplanted.

A letter was read from a Missouri grape grower, stating that the Catawba grape is not being discarded, as many eastern people imagine. New vineyards of Catawbas are planted every year.

R. G. Pardee don't find anything better than Delaware—kept some two months, and they then dried into perfect raisins—don't see what we want of Adirondac; Delaware supplies all wants.

W. S. Carpenter replied that Adirondac is much larger than Delaware, a stronger grower, free from pulp, and of delicious flavor, but can't spare Delaware—both wanted.

Solon Robinson said, the Delaware was good from Missouri to Vermont, and asked where, except in its original locality, the Adirondac had been thoroughly tested.

Dr. Underhill replied to the assertion at a former meeting that his grapes were sour, and that he made more money from the sale of vines, than from the grapes themselves, stating that the constantly increasing demand for his grapes did not allow him to put as many into wine as he wished to, and that he made ten times as much from the sale of grapes and wine as from the plants, and did not fail of a crop once in 20 years. He cultivates only the Isabella and Catawba, to any extent—is trying the newer sorts, and would not stick to the old varieties did he believe others would succeed better. He could prove, by statistics, that, with the exception of California, 90, if not 95 per cent of all the wine made in the United States was from the Isabella and Catawba grapes, though some persons persistently assert they are not worth cultivating. He attributed the failure of the Isabella in some cases to planting on a clay soil, or a clay subsoil, where the surface soil looked well; and in other instances it was allowed to bear itself to death. Not more than one-fifth the amount of fruit a thrifty Isabella vine would set, should be allowed to grow.

Dr. Ward does not question the success of Dr. Underhill with the Isabella, on his peculiarly warm, light soil, with the ameliorating influence of the water almost around his vineyard; still it must be admitted there were hundreds of failures in less favorable situations, where all the requisite care had been bestowed. The fruit does not ripen, hence the society could not confidently recommend it for general culture.

Dr. Underhill still contended that people did not thin out the Isabella as they should, and instanced a case, where one of his own vine dressers was driven away from a vineyard he had undertaken to regulate, because he was cutting off some of the clusters, the owner remarking that what nature put on was all right. The result was 10,000 lbs. of immature grapes, instead of 2,000 lbs. of well ripened clusters. He had recently planted a vineyard of Isabellas where he was told this sort would not succeed, and the result was entirely satisfactory—recommends trying the new variety, but to hold on to the Isabella as a proved sort.

T. W. Field said, Isabella was so fitful there was no calculating where it would succeed. He named several failures, on a large scale, where the soil appeared suited to the grape, and the requisite amount of skill was used in its planting and after-culture, paying due attention to thinning the fruit. He had never been able to get a perfect cluster of the Isabella on his own place.

To Workers in Wood—Packing Boxes Wanted for Mailing Plants.—Some better plan is wanted for mailing small parcels of plants to preserve them from being crushed in the mail bags. We have been studying upon several plans. The best we can think of, is a small wooden box, say like a long, round match box, not bored quite through, without cover, the ends rounded, to be slit through lengthwise, so as to open for laying in the plants enveloped in moss and oil-cloth. The two halves can then be put together and fastened with a paper label pasted around, or by strings in grooves. We invite attention to the matter, and proposals. Perhaps some better form can be named. An immense sale will accrue to the person who can get up the best and cheapest thing of this kind. A great business is now done in mailing plants, under the cheap postage law. We want 50,000 to 100,000 such boxes, and will help the inventor of the best, to a large demand.

Containing a great variety of Items, including many good Hints and Suggestions which we give here in small type and condensed form, for want of space elsewhere.

Unanswered Letters.—See note on page 36 last month, which applies quite as strongly now.

Back Volumes and Numbers Delayed.—So many printers have gone to the army that it is difficult to get back numbers and volumes printed and bound at once. Hence the delay in forwarding some volumes ordered, and also in sending the first numbers of this year to new subscribers. We hope to soon get square.

"Our Variety Store." — We direct particular attention to the large assortment of excellent advertisements in this paper and in the Supplement. The valuable information given will pay well for looking through the whole. Note that the business matters under the different heads of Trees, Seeds, etc., are both on pages 90 to 95, and on the Supplement—those in the latter coming in after the pages were full, had to be made up separately. No other distinction of place is made—the last, middle, first, and the Supplement pages, are equally valuable. As heretofore remarked, these pages are very like a good "VARIETY STORE" brought to every one's door. We have sifted the advertisements, rejecting very many altogether. Our aim is to insert nothing from parties whom we do not believe will do all they offer to do.

Instead of raising the subscription price, we give a little extra space to the business department this month.—N. B.—Advertisers express themselves so well pleased with the plan, that we again request our readers in ordering goods or sending for circulars, catalogues, etc., to state *where* the advertisements were seen.

A Present of Fine Hogs to the Sanitary Fair.—The Metropolitan Fair Committee have received notice from N. O. Burger & Co., Coatesville, Pa., that they expect to send on a lot of hogs, to be sold at the Great Fair at New-York. This firm proposes that breeders of stock-pigs each send on a dozen pigs, less than one year old, to be given to the Fair, and at the same time deposit a specified sum of money, the whole to make a sweepstakes premium, to be given to the breeder of the best dozen. Perhaps something of the kind will be carried out.

Tobacco Culture—Onion Culture.—Large sudden calls, on Feb. 20, run out the second edition of the valuable work on Tobacco Culture, which accounts for the delay in supplying it. The third edition is now ready. See page 95 for advertisements of both Tobacco and Onion Culture.

The Grape Culturist, by A. S. Fuller. We have seen this work in sheets, just as we are going to press, and it will probably be issued by the time this notice reaches the reader. It appears to be a very complete treatise upon all the different branches of grape culture, set forth in a plain and practical manner and fully illustrated with excellent engravings. It is no doubt the best treatise on the native grape yet published. Sent by mail for $1.25.

Vick's Illustrated Catalogue of flower seeds with brief descriptions of the flowers and directions for their culture. The work is abundantly illustrated and will prove a useful hand-book for the flower garden. See advertisement.

The "Five-Twenties" a Good Investment.—The *American Agriculturist* seldom offers special advice in regard to financial investments, unless it has well grounded reasons for doing so. During the past year we several times urged our readers to use all their spare money in buying the **5-20** U. S. Bonds, both as a patriotic investment, and as one that would pay well. We did so for good reasons and acted upon the advice given to others, so far as we had any investment to make of our own, or of money entrusted to us as Trustee for minors on account of an estate to be settled. Messrs. Fisk & Hatch and others tell us that they received many subscriptions to the **5-20** Bonds from persons who stated that they did so wholly upon their confidence in the recommendation of the *Agriculturist* ... The loan having all been taken at par, the bonds are to-day, Feb. 16, selling at a premium of 7 to 8 per cent., or $70 to $80 advance on each $1,000 bond dated prior to Nov. 2d, and those of later date are proportionately high.

The German Agriculturist valuable for Students of German.—One of our German subscribers writes for both German and English editions and adds "I suggest to those of your German readers who are not well acquainted with the English tongue, that your two editions offer a rare opportunity to compare the languages, even though the translation may not be exactly literal. Also, to those, who are studying German, the same facility."—A large number of families already take both editions—the German for the old people, and the English for their children, who are learning this language.

Tea, Then and Now.—In 1661 the importation of tea into England was 2 lbs. 2 oz., for the use of the king. Two hundred years later (1862) the imports into that country were **109,000,000 pounds.**

Knitting Machines.—A. W. Fuller, Wyoming Co., Ill. We know of no more successful knitting machine than Aiken's, which is well recommended by those who have used it.

Transporting Bees.—"A. J." Plainfield, Ind. The plan you suggest, would not work. The proper way is to furnish the bees transported with a piece of honey comb, *worked fast in a frame.*

To Destroy Pea Weevil.—David Gorham, Tipton Co., Ind. The pea weevil may be destroyed by soaking the peas in scalding water just before planting

"Hobson's Choice." — This is a very common expression, implying "that one has no choice, or that he must 'take this or none.'—The origin of the expression will interest the readers of the *American Agriculturist.* Tobias Hobson kept the first livery stable in England, near Cambridge University. He had forty horses for hire, some of them very fine, but he made it an invariable rule that every successive customer should take the horse standing nearest the door or none. He so arranged the animals that each horse should come in order for a share of the work.

A Portrait Wanted.—Every year numerous requests have been made for the publication of the portrait of the Proprietor of the *Agriculturist.* He is not sure enough of his good looks to place himself thus on exhibition. Besides, thousands have already in their own minds made a picture of his personal appearance, and as probably very few if any of these are correct, an exact likeness presented would only bring them disappointment, and it is a rule of this establishment not to disappoint its patrons, if possible to avoid it. F.

New Milk Stool.—"A Subscriber" gives an account of a milk stool he has long used, which holds the pail on one end while the milker sits on the other. He says it not only keeps the pail clean, but gives him much better control of it, in case the cow is restless. A similar arrangement was figured in the *American Agriculturist,* Vol. XXI, page 300, (Oct. 1862.)

Sundry Humbugs.—Hundreds of circulars, pamphlets, etc. not to mention the inevitable ticket "1649", have been poured in upon us. We have no room to show them up seriatim. Here is the villainous "Franklin Benefit Association"; "Cosmopolitan Art Union"; another Maine "$10 Sewing Machine"; "Doctors" hailing from New-York, from Jersey City, Albany, Troy, Lansingburg, and elsewhere; "Shelbyville Lottery"; "Covington do.", and a dozen others in obscure towns from Maine to New-Jersey, and westward; "Facsimiles" of gold coins; some 99 kinds, more or less, of "Bitters" (that is cheap whiskey drugged a little to disguise it); and so on to the end of the chapter. Look out for humbug seeds, plants, etc, and *irresponsible* "tree peddlers" about these days.

Humbug Doctors.—Answer to at least a hundred letters: Every Doctor in this city or any other city, or village, who advertises by circular or newspaper to send medicines or medical advice, or medical books, or medical pamphlets, by mail or by express is a humbug. Every advertising doctor is to be avoided.

Sambuci Wine.—"Jerseyman" writes, "The remarks in the February number of the *American Agriculturist* about this so called Portuguese wine, remind me, that I had intended some time ago to call your attention to the much-puffed "Sambuci"—young-americanized to "Sam Buckeye"—wine, which is simply a preparation of the juice of the common elder-berry. During the ripening season of these berries a lively time is had by the boys and girls around Passaic, Bergen and the adjoining counties, in gathering this *not* "imported-from-Portugal" fruit, at the tolerably liberal figure of one cent per pound, which is paid by the proprietor of the mythical "vineyard in New Jersey." It may not be amiss, to tell your thousands of readers, that a palatable beverage called "wine" is made from the elder-berry, and if in the manufacture a small quantity of "Jersey Lightning" be added, a mixture peculiarly resembling the much vaunted "Sambuci" is obtained, and that, too, at a cost *very far below* one dollar per bottle. The newspapers are paid to insert puffs of this Sambuci compound, and nine-tenths of the editors probably do not know or care whether the statements are true or not. I have read some outrageous yarns concerning this wine—of persons believing it to be the purest kind of Port; of what the London *Times* is supposed to have said about it; and of its wonderful medicinal properties; all of which to any one who has spent a little time in the counties aforementioned, seems, to speak somewhat mildly, slightly on the order of *romance*. Elder-berry wine, without any alcoholic additions, is a cheap and pleasant drink."

More Lottery Humbugs.—A new game in this line is being attempted by a firm of self-styled bankers in New York City. They send out "*private and confidential*" circulars to different parties, which we have seen, stating that certain numbers which they name are sure to draw prizes of at least $1000 in a forthcoming lottery. "Being desirous of distributing a few prizes in the neighborhood of the parties addressed, for the purpose of waking up the public, they will forward the lucky tickets on receipt of $5." If any are unsuspecting enough to believe this story, we advise them to test the matter, by sending to the lottery men the following perfectly fair proposition: Tell them to draw the prize, retain $5 for price of ticket, $5 additional for their trouble, and forward the balance. This will cost only three cents for postage, and the balance, $4.97 of the coveted $5, will remain on hand, a clear saving from a *swindle*.

New Way to Raise the Wind.—Recently letters have been received from subscribers of the *American Agriculturist*, describing the following swindle by which some have been victimized: A note dated at New York, is sent out to some distant party saying: "We have a package directed to your address, which we will forward to you on receipt of 50 cents and a 3 cent stamp for this notice." No place of business is named; the money is to be sent through the P. O., directed to New York City. The directory shows no firm here of the name signed to the above note, and our letter addressed to the parties has failed to bring any reply. Regular express companies never conduct business in this style; those who do are express rascals. Keep clear of them, and put your neighbors upon their guard.

Humbugs.—A Request.—The *American Agriculturist* is now so widely distributed, being taken at a large majority of Post Offices in the United States and Canada, that probably no better medium exists for putting the community on guard against swindlers. We therefore repeat the request heretofore made, that when circulars from unknown parties promising unusual advantages, are received, specimens may be sent to this office, unless the scheme has been previously exposed by us. And one thing more—when a humbug is shown up, it will be a favour to your neighbors who may not be receiving this journal, to put them on their guard. Whole townships have been saved from being flooded with deceptive circulars, by the information imparted by the *Agriculturist* to Postmasters, and acted on by them.

Fertilizer for Tobacco.—Substitute for Stable-Manure.—Wm. Mechling, Cumberland Co., Pa. It is hard to tell. There is no substitute. Were the writer in your place, he would collect a good stock of dry muck, or sods of good sward, or if nothing better could be got, good loam, and add to part of it at a time every particle of chamber ley possible, securing that of every hotel or factory within 3 miles at least, saturating the muck or sods with it, and sprinkling on plaster occasionally. If he could, he would get castor pomace, unground, at the rate of ½ ton to 1½ tons to the acre, according to the amount and strength of chamber ley compost he could make. (This is sold in New York for $22.50 per ton.) Mixed with muck or soil, at the rate of 200 lbs. or one bag to a load, it soon heats, and if worked over once or twice with the addition of more muck and some plaster, rapidly makes a most excellent compost. Besides this, he would apply to the soil unleached or leached ashes, or super-phosphate, if good could be obtained, in such quantity, as he could afford, and judged the land to need. Peruvian guano in market costs $100 per ton.

Subsoiling.—Is it of any use?—"Does subsoiling benefit any crop in any situation—particularly, would it make the potato crop earlier?" "C. W.", Lancaster Co., Pa. Subsoiling loosens up the soil for a depth of several inches below that portion which is turned by the surface plow. It prevents the packing of the soil by the plow and the formation of a hardpan at the usual depth of plowing. It promotes drainage; lets in the air; enables roots easily to go to greater depths; promotes the absorption of moisture during drouths, and enables crops to withstand their effects much better. Some soils are open by nature, and some are well drained. These are therefore little, if at all, benefitted by subsoiling, but those helped by underdraining are also improved by subsoiling.

Quantity of Timothy Seed per Acre.—"C. M.," Birmingham, Mich. Sowed alone, that is, without other grass seed or clover, three pecks to a bushel of seed will probably pay, though this is very heavy seeding. Sowed with clover, 10 quarts to 2 pecks, according to the soil,—the stiffer the soil the larger the quantity. Sowed with other grasses, no given quantity can be specified. It pays well to raise it for seed on very clean, rich land. This grass grows so tall that we think the Reading Harvesters, now coming into so general use at the West, might be used with great advantage, for only the Timothy would be cut, and the heads of the other grasses and weeds left untouched. We have known farmers who claimed they could raise as many bushels of timothy seed as of wheat per acre.

Lucerne.—Does it succeed at the North?—"J. M. F.", New Haven Co., Conn. It succeeds in your county, and elsewhere in Connecticut, at any rate. So it does on Long Island and in many parts of New Jersey, in this State, and farther South and West in some cases that we are acquainted with. Why it is so little cultivated is a mystery. It needs *an open subsoil*, and a good surface soil, carefully prepared. It will follow tobacco, mangels, or carrots, well; may be sowed broadcast or in drills, and weeds and grass must not be allowed to interfere with its growth the first season. It is very valuable for soiling cows.

Bots in Horses.—"W. H. B.", Martin's Ferry, O. "The doctors disagree" thoroughly, as to whether bots really do any harm or not. The yellow eggs which often cover spots on the inside of the knees and back of the shoulders of horses, and are scattered elsewhere over his body, produce the bot. The gad-fly, which lays them, like a small "bumble bee" in appearance, is well known. The horse licks the eggs, and little grubs quickly make their appearance, are licked off and swallowed. They develop in the stomach, hanging by two hooks curving outward from the mouth. They absorb little or nothing through the skin, hence medicines which will not kill the horse will not disturb them. When they have matured, they assume the pupa state, drop off, are thrown out with the fæces and soon hatch into gad flies again. It is said that they sometimes cut holes *through the stomach*, hence cause great distress or death. But Mr. Bracy Clark, who has studied them more carefully than any other man, thinks that they do little or no harm. Horses not pastured never have bots. Greasing those parts of the horse to which the gad-fly attaches her eggs, will in part prevent the trouble. Perhaps greasing might kill the eggs. There is no cure after the eggs are swallowed; nutritious diet is better than any physic. The plan on the homestead farm was, to give a large quantity of sweetened milk, and follow with physic in half an hour after. The theory was, that the bots "let go" to eat the milk, and were then carried out by the physic.

Cure for Grease or Scratches.—P. Norwood, Cortland Co., N. Y., cures grease successfully by taking it in the early stages, washing the horse's legs thoroughly in soap suds, and when dry, bathing the diseased parts with strong, warm wormwood tea. Thus treated when it first comes on, the disease yields to one application. When it is of longer standing, it is necessary to bathe the legs a number of times.

Soiling Cows, etc.—A returned Californian writes from Chester Co., Pa.: "I wish to keep up my half dozen head of cows, feeding with rye, cut grass, corn fodder, roots, etc. Will it answer; will they do as well, and will it pay as well, counting the saving in fences and land they would occupy, also the additional manure? I want manure to get my land rich, and have this fall loosened up thirteen acres plowing and subsoiling eighteen or twenty inches deep, have laid drains fifty feet apart over part of it, from three to four feet deep, using for laterals one inch round tiles with collars. The neighbors mostly think it will not pay, and say, I must have money to waste. This is not so, but I wish to make farming pay."—If well managed, soiling will pay. It will give much manure, the cows will be more comfortable, it will save in fences and land, but not in labor, though the additional labor is usually overestimated. Read Donald Mitchell's experience in "My Farm of Edgewood."

Caked Bag in Cows.—Dr. Geo. H. Dadd V. S., says in the Prairie Farmer, that he has known a case of caked udder of long standing, to be cured in the following manner: Rub the udder for about a quarter of an hour every night with a portion of cod liver oil, and give the animal twenty five grains of Iodide of Potassium, in half a pint of water, every morning before feeding.

Winter Apples for Western New York.—The following six varieties of winter apples were named as best, by the Western New-York Fruit Growers' Convention at its recent session: Baldwin, Tompkins County King, R. I. Greening, Roxbury Russet, Golden Russet, and Northern Spy.

Wash for Fruit Trees.—Charles Weston, Ulster Co., N. Y. A solution of 1 lb. common sal soda to a gallon of water makes an excellent tree wash to remove scale, moss and other external obstructions to the healthy growth of fruit trees. Gas tar is excellent to kill vermin *and the trees* at the same time. Soft soap is good. Apply it spring or autumn, and scrub with a stiff brush.

Some Things Repeated.—To a great many correspondents. We *dont* know where to get Osage Orange Seed. We *cannot* reply to questions asking where seeds, plants, fowls and the like can be got. Our chief source of such information is the advertisements which are also open to our readers. Space is too valuable to occupy it with replies of a personal character.

The "Star Ipomea."—To several Inquirers. As stated in the February *Agriculturist* this is an old thing under a new name. It is none the less pretty for being old, and it may be had of seedsmen generally, at a moderate price. Some charge 50 cents a paper, while other good dealers ask about one tenth as much.

Seeds Sent Cheaply by Mail.—A great boon to the country is the cheap postage on seeds, and especially so to the distant Western Territories. For illustration: One of our advertisers received a cash order from Washington Territory for an assortment of seeds, amounting to 18 lbs. in all. They were to be sent by express at a cost of $8 or $10; but the recipient of the order put them in parcels of 4-lbs. each and sent them all the way for $1.44.

Farm Book for Beginners.—"Tyro," Greene Co., N. Y. Todd's Young Farmer's Manual is probably the work you need. It has many directions for performing all important operations on the farm, and contains much *practical* matter. Sent post paid for $1.25.

Questions About Books.—To the numerous questions about books that continue to come, we can only answer, as last month: Consult the list on page 95, where the comparative merits, in our opinion, are indicated by the number of stars.

The Sunday School Question Books entitled "Lessons for Every Sunday in the Year," No. 1 and No 2, are going into very general use, in the schools and families of all denominations—the demand often exceeding the ability of the publishers. This is of course peculiarly gratifying, as the books are upon a plan which grew out of our own experience, though the carrying out of the plan in preparing the lessons was entrusted to far more competent hands. From the multitude of letters of approval received from those who have examined and are using the books, we feel warranted in inviting attention to them by all interested in the education of children. The outlines of sacred history and the systematic information they give, make these lessons valuable to adults, while they are especially useful to teachers and parents. We gave away all our personal interest in the publication, but special editions are prepared for us to supply all our readers. The price, (10 cents each, by the single copy or in quantity,) is put down so cost, if not below, at the present rate of printing paper and labor. If to be sent by mail, 4 cents postage is added. As postage is reckoned by the 4 ounces, the cost per copy of either No. 1, or No. 2) when sent by mail, is 12 cents each for ten or more in a single package. Under ten copies:

1 copy,	14 cents.	4 copies, 52 cents.	7 copies, 90 cents
2 copies,	28 cents.	5 copies, 66 cents.	8 copies, 1 04 cents
3 copies,	42 cents.	6 copies, 80 cents.	9 copies, 1 18 cents

Mulching Wheat.—C. T. Rogers, Butler Co., O. Wheat has been benefitted by spreading a thin layer of straw upon it during the winter. It modifies the effects of sudden changes of temperature by which the ground is repeatedly frozen and thawed, and the roots thus broken, and the plants often thrown out of the soil.

Manuring Pastures.—G. F. Wilson, Greene Co., N. Y. Top-dressing pastures with manure is undoubtedly beneficial. It may be done early in the spring to advantage, though for some reasons, autumn is preferable When the soil has not been impoverished by long and close feeding, this may in time suffice to bring it into good growth. Where it is moss-bound, it would be well to run over it with a heavy harrow, sow seed, and roll down smooth before applying the manure.

Dead Animals for Manure.—Edward Hune, Dutchess Co., N. Y. Place a layer of muck from six to eighteen inches deep, according to the size of the animal, lay the carcass upon it, and cover with a foot or two of the same material. If any unpleasant effluvia arise during decomposition add more muck. Leave it until the whole (except the bones) has decayed, which will usually be in 6 to 12 months. Then fork it over, adding more muck, and plaster, (no lime nor ashes,) and throw out the bones, which may be rotted in the horse-manure heap, or worked up in a similar compost. Fork over again at the end of a month, and you will have a capital article of manure. If muck can not be obtained, sods, or even common soil will answer a good purpose.

Cisterns for liquid Manure.—"J. B. R." Kennett Square, Pa.—You will find on page 8, January No., of the *American Agriculturist*, a description of a cistern which will answer perfectly for liquid manure. Your pump must be one which will not clog easily with bits of straw, etc. You can hardly value liquid manure too highly, nor take too much pains to save every particle.

Yield of Flax per Acre.—Thomas W. Hanson, Oneida Co., N. Y. On good land, with fair cultivation, a ton of rotted flax, and from eight to twelve bushels of seed per acre is an average yield. At present prices this would be remunerative, provided there is a market for the flax straw near at hand. Or, by the use of an improved brake, where enough is raised to justify the purchase of one, the straw can be reduced in bulk to admit of distant transportation with profit. A ton of flax straw if properly dressed, yields 450 to 500 lbs. of good fibre, about 70 lbs. coarse tow, and 12 to 16 lbs. fine tow.

Corn and Pork.—William Dawson, Otsego Co., N. Y. The quantity of corn necessary to make a pound of pork depends upon several circumstances; as the breed of hogs, the soundness of the grain, the manner in which it is fed, whether whole, ground, or cooked, etc. A correspondent of the *American Agriculturist* last year reported that a lot of hogs of mixed Berkshire and Suffolk breed, returned 13.7 lbs. of pork for each bushel of corn fed, unground.

Saving Liquid Manure.—"G.," Milford, Conn., writes to the *American Agriculturist* that he finds it pays well to place a layer of turf (muck would be better) under his stable floors, to absorb the liquid falling through the cracks. In the spring the floor is removed and the deposit carted out. This plan is better than to allow the liquids to be wasted, but a superior arrangement was shown in February number, page 44.

Draining Peat Lands.—J. H. S. Crosswicks, N. J., describes a muck swamp as we should think, though called by him peat—(peat differs from muck, as the words are used in this country, in being much more spongy, more purely a vegetable growth, consisting almost altogether of kinds of moss called *sphagnum*, and is usually more difficult to get in arable condition.) The vegetable matter is 2½ to 3 feet deep, and there is a good fall to drain the land. We advise putting drains 4 feet deep through it and running covered lateral drains into them. Use small round tile for the side drains. Their length will depend upon the amount of water you have to carry off, and the fall you can get. The less fall the better as a general thing. Leave the main drain or drains open at first if you wish, but protect the mouths of the side drains, from toads, frogs, mice etc. which might get in and make trouble.

Fences Dear at Any Price.—Under our present circumstances, we must maintain this necessary nuisance. Town regulations and public sentiment upholding and enforcing them, might save a vast expense to farmers, both in the thickly settled East and on the Western prairies. Some fences along the highways, and fenced pasture grounds, however, seem to be absolutely necessary, and these with some form of movable fence, to protect orchards or crops near which cattle must pass on the way to and from pasture, are all that many of our best farmers now use. In all thickly settled districts we are prepared to advocate the doctrine that every man should take care of his own cattle, be held strictly responsible for the damage they do, and not be obliged to maintain fences against his neighbors' animals.

What Kind of Grain to sow Grass with.—Enoch Thomas, Erie Co., N. Y.—It makes little difference, with which grain you seed down your land. If the soil is in first rate order, sow wheat, otherwise barley or oats. Cross-plow without disturbing the buried sod. Sow the least quantity of grain that you think will do, and when it is cut, leave long stubble and roll or drag it down.

Timothy on Medium Corn Land. "J. I. H. W." Somerset Co., Md. Timothy (Herdsgrass) will probably do pretty well on such land as you describe. Corn sowed broadcast or in drills for fodder, not so well, but still you can get a paying crop.

"Some more Beans."—Those who have not as yet decided what crops to cultivate the coming season, or who can put a few more acres under the plow, may well consider whether a crop of beans can not be made profitable. The great call for them for army use has enhanced the price out of proportion with many other articles of food. They are most easy of cultivation, and may be raised on land too poor for most of the grains, although at least moderate fertility will give the best yield. They are an excellent crop for orchard grounds, as they do not draw heavily upon the soil, and their cultivation, by clearing the ground of grass and weeds, may be a benefit to the fruit.

Flax-Cotton.—"Inquirer," Berkshire Co., Mass. The manufacture of flax-cotton appears to be making some progress, but as yet no establishment on an extensive scale that we are aware of, is turning out an article that can compete with cotton for many uses. We have recently examined samples obtained by private experiments, which seem to come near the desired standard. The fabric already furnished is being largely used for coarser purposes where cotton was formerly employed.

Time for Breaking Prairie.—Wm. Farquahr, Marshall Co., Iowa, writes to the *American Agriculturist*, that after nine years' experience he thinks prairie sod may be broken up from May 1st, to July 20th, if the work be properly done. He cautions new comers to see that in breaking, all the sod be turned over, otherwise great difficulty will be found in after-culture.

Pleuro-Pneumonia.—Lung Murrain.—The former name is objectionable, because it indicates simply an inflammation which affects the lungs and the lining membrane of the cavity of the chest—the *pleura*. This is a disease afflicting both the human family and animals. It is not contagious. The Lung Murrain, however, which is also called *pleuro-pneumonia*, is as contagious as the small pox, and, as we believe, very much more so. The advice of a Chester county (Pa.) correspondent, that farmers "trust their cattle to Divine Providence to be protected against this and all other diseases" is equally applicable to cattle in a burning barn. The immutable laws of Divine Providence decree their consumption by the flames unless you untie them and bring them out. The same laws provide, that of cattle exposed to this disease a great number—at least 75 per cent—will take it, and that from one third to one half of these will die. The truest way to trust Providence is, to use every means which Providence places under our control to stay the disorder.

Gypsum—Sowing it Damp.—Some may not be aware that it is not necessary to sow Gypsum (plaster of Paris) dry. If dampened just enough to prevent its blowing, it may be sown with ease and comfort.

$875 For a Few Boards.—A correspondent of the Prairie Farmer relates that he lost 250 sheep during the terrible storm of January 1st, all for the lack of a few boards in the right place. The flock, numbering 550, were under a large shed and, as the owner supposed, safe from harm. Unfortunately, he had neglected to close up the opening under the sills, which rested on stone blocks, about five inches from the surface of the ground. The keen, driving blast struck the faces of the sheep; they left the shed and huddled into a corner, where the stronger climbed upon the weaker, and the whole were drifted in together, with a loss of about half.

Sprouting Sorghum Seed.—E. A. King says in the Country Gentleman that he treats his sorghum seed thus: Place it in a bag with about an equal quantity of plaster of Paris, immerse it in boiling water, allow it to remain five or ten minutes; then place the bag by the stove or in some warm place, and allow it to remain until the sprouts are from one-half to an inch long. This will be in from one to two weeks, when it should be planted. He says, when treated in this way, the young plants will appear above ground in from three to six days. The preparation should be made so as to have the seed ready for planting about the middle of May in this latitude.

Sorghum Syrup from New-Jersey. A jar of very thick and very good sorghum syrup comes to the office of the *Agriculturist* from Mr. A. F. Cummings, of Somerset Co., N. J.; a sample of a lot of 1,100 gallons. Good for New-Jersey, and promising also.

Farm Labor.—"J. T. H. W.," Somerset Co., Md. Your question, with those of other inquirers, will be found answered in other articles in the present and preceding numbers of the *Agriculturist*. It is not likely that the price of oats will be lower for some months.

Dead Horses in the Army.—A contract for the purchase of dead horses, in the Army of the Potomac, was let a few days ago to the highest bidder at $1.76 per head, delivered at the factory of the contractor. It is said that an average of 50 horses die daily, and that the contractor last year realized some $60,000, by turning all the merchantable relics of these animals to account.

High Priced Horses.—The racing stud of the Earl of Stamford and Warrington, 66 horses, was recently sold for $143,750. The highest price was for Onesander, a winner of the Ascot Derby stakes, purchased by Mr. T. Wadlow, for one 1000 guineas, nearly $5000.

Mule raising Profitable.—Henry Hosmer, Logan Co., Ill. There can be little doubt that mule raising may be made as profitable or more so than breeding horses or other stock. These animals are little liable to disease, may be sent to market at an earlier age, and they command a better price than ordinary horses: they meet with a ready sale in the drove, the buyer to take his own risk, without the guaranty usually given with horses. For ordinary farm work and teaming on level roads where high speed is not required, mules are of great value, as is seen in their large employment for army transportation.

Gunpowder for Pigs.—The Boston Cultivator recommends as a daily dose for "Black Teeth" in pigs a mixture of charcoal, sulphur and saltpetre. Why not give gunpowder at once as a regular meal, and a dessert of friction matches to "top off" with?

Steel Plows with Iron Shares.—W. H., Brevoort, Ind., asks, "what plow is best adapted to the second bottoms of Western rivers? The soil is a sandy loam, often gravelly. Steel plows wear away very rapidly." Try the steel-mould-board-and-cast-iron-share plows—made by J. Gill & Son, Columbus, O., we believe.

The Reaper Trade.—The Prairie Farmer states from reliable information that 33,000 reapers were made for the trade of 1862, over 46,000 for '63, and that for the present year upward of 70,000 will be made, of which Illinois alone will turn out between 14,000 and 15,000. The cost at an average of $130 each, would amount to over *nine million dollars*.

Packing Pork.—Wm. M. Merwin, New Haven Co. Conn., writes to the *American Agriculturist* that in packing pork for family use, he cuts the meat into pieces not exceeding four pounds each. This is about the quantity required for use at one time by a family of ten or twelve persons, and no more need be displaced at once, thereby preventing spoiling by exposure. He places it in the barrel, skin side down, and entirely covers each layer with salt. The reason given for this is, that the salt is more readily absorbed by the meat in the direction of the grain. [The pork may keep, packed thus, but not for the reason given; the grain or fibre of the meat runs parallel with the skin.—ED.]

The Best Fowls for Eggs.—"W. J.," Oneida Co., N. Y. For producing eggs, the Poland are good, though perhaps, not quite equal to the Bolton Greys. The Leghorns are prolific, but not very hardy Geo. Taber, of Kennebec Co., Me., who has experimented not a little with different breeds of fowls, states in the Maine Farmer that, with 29 Bolton Grey pullets and 3 old hens of another breed, kept for setting, he in one year obtained 4,608 eggs, and raised 65 chickens, besides using all the eggs desired in a good sized family. In all cases select young hens for laying, and old ones for nurses

What will Cure Gapes?—Frequent inquiries on this subject have been answered in the *American Agriculturist*, by those who say they have successfully treated this disease in chickens, but occasionally a subscriber reports having tried turpentine, pepper, removing the worms with a horse hair, etc., without effect. Can any one give a positive unfailing remedy? Prevention, we believe, may be found in clean dry quarters for the fowls and feeding with *cracked* corn and sour milk, with an occasional slight mixture of sulphur.

Another Pickle for Beef.—A. J. Boyd, Lucas Co., O., writes to the *American Agriculturist* that there is more danger of over-salting beef, than of not using enough. He directs to wash bloody pieces of the meat in cold water, let it drain, and then for every 100 lbs. make a brine of 3 gals. water, 5 lbs. salt, 1 lb. loaf sugar, and 2 oz. saltpeter. Heat slowly until the salt is dissolved, skim it, and pour it over the packed beef, either hot or cold. He thinks that to repack the beef in fresh brine, as advised by some, injures the flavor of the meat.

Vitality of Seeds.—C. B. Rogers, Genesee Co., Mich. Seeds of melons and cucumbers are preferred by many gardeners after having been kept two or three years; they will germinate when ten or more years old. Onion and carrot seeds are not to be depended on when more than one year old. Beet seed will answer to use the second year after raising.

Liming old Gardens.—A "Subscriber" inquires, "At what season of the year may lime be best applied to old gardens that have been dressed year after year with stable manure? and how many bushels per acre? Also, is it essential to turn it under immediately?" Lime is seldom applied to gardens in a smaller quantity than ½ peck to the square rod. One peck to the rod is not too heavy a dressing. It is best applied in the autumn when the soil is thrown into ridges to be the more subject to the influences of the frost; but may be put on in spring with good effect, and should not lie long before being thoroughly incorporated with the soil.

More Fruit wanted.—George D. Wintner, Rockland Co., N. Y. There is little fear that this market will be overstocked with good fruit, for many years to come. If this idea be the only hindrance to going into fruit cultivation, dismiss it and get to work. Two-thirds of the people do not yet know how first-rate pears, grapes, blackberries, etc., taste. The supply is too limited to allow those who have not first-rate purses, to indulge. The methods adopted for preserving fruit will provide for any temporary surplus that an unusually favorable season may occasionally furnish.

Fruit Notes from Iowa.—E. E. Brown, of Jones Co. Iowa, gives the following list of apples as suited to his locality, and which would probably answer for the neighboring portions of Illinois and Wisconsin: "Red June, Sweet June, Early Harvest, Benoni, Fall Wine, Jersey Sweet, Maiden's Blush, Snow or Fameuse, White Winter Pearmain, Winesap, Jonathan, Raule's Janet, Westfield Seek-no-further, Talman's Sweet, Willow Twig, and Romanite or Carthouse. In some soils the Bellflower is one of the best, but in the prairie soils it is rather a shy bearer. The Rhode Island Greening does well top-grafted, but when root-grafted, the bark is apt to burst. The Northern Spy is a poor bearer, and with me trees are troubled with dead spots coming in the forks, which extend down to the ground and spoil the tree. The Esopus Spitzenberg, Roxbury Russet, Sweet Bough, Ladies' Sweeting, and Rambo, are entirely too tender for this climate. The Flemish Beauty and Bartlett are the best two standard pears, though the latter is a little tender, and the Louise Bonne de Jersey is the best dwarf."

What Apples to plant.—"Inquirer", Columbia Co., N. Y. For your locality the following varieties may be recommended. *Summer:* Early Harvest, Red Astrachan, and American Summer Pearmain; *sweet:* Sweet Bough. *Autumn:* Fall Pippin, Porter, and Gravenstein; *sweet:* Jersey Sweeting, Autumn Bough. *Winter:* Baldwin, R. I. Greening, Esopus Spitzenberg, Seek-no-farther, and Swaar; *sweet:* Talman Sweeting, and Ladies' Sweeting. These sorts will furnish a sufficient selection for family use or for marketing. Better have a few varieties which succeed well, than to aim at a large number with doubtful prospect of profit.

Pears for Bees.—T. J. Brattam, Eugene City, Oregon, writes to the *American Agriculturist*, that last autumn, having prepared a quantity of Bartlett pears for drying, a large portion were eaten by bees, which seemed to greatly relish the fruit. He inquires whether ripe pears would not be profitable honey-making material. We judge not, while good pears command the prices usually realized in this market; they may do elsewhere.

Pears for Family Use.—The Fruit Growers' Society for Western New York, at their late meeting, recommended the following as the best 14 varieties of pears for family use: Bartlett, Duchess, Louise Bonne, Sheldon, Lawrence, Doyenne d'Ete, Seckel, Belle Lucrative, Beurre Giffard, Beurre d'Anjou, Rostiezer, Flemish Beauty, Winter Nelis, and Beurre Bosc This applies to the section represented by the Society.

What Crop to put on an Orchard.—"L. C. W.", Brooklyn.—Such a working of the soil as a crop of beans, carrots or potatoes requires, benefits the trees, and the crop will more than pay for the labor. Barn yard manure may be used with carrots or beets, but with potatoes it is best to apply lime, leached or unleached ashes, or a castor-pomace compost.

Japan Lilies.—M. E. Forest, Cayuga Co., N. Y. These beautiful flowers are worth a little extra painstaking. They flourish best in a mixture of sand, leaf mould, and common soil. It is well to remove them to a new border at least once in three or four years.

Materials for Filters.—"Subscriber", Decorah, Iowa. Layers of gravel, sand, and charcoal broken fine, the different substances separated by pieces of flannel, are the materials commonly used in filters. Descriptions of good filtering cisterns were published in the *American Agriculturist*, Vol. XIX, page 45 (Feb. No., 1861,) and Vol. XXII, page 73 (March No., 1863).

About Washing Machines.—To many inquirers: The improved crank introduced into the "Nonpareil Washing Machine" adds materially to the ease of its working. It is the best washing machine we know of, unless it be the new implement, called "Doty's New York Clothes Washer," which seems to be giving very general satisfaction. Considering the prices and the respective peculiar merits of the two machines, we can hardly decide between them. They have both been tried in our family for some months past, sometimes both on the same day, and sometimes on alternate washing days, and in answer to our frequent inquiries, the decision is at one time in favor of one, and at another time in favor of the other. From what we know thus far, everything considered, we would trust the choice to a casting of lots. In this we are governed mainly by the opinions of those who work them. Having been thoroughly accustomed to turning the grind-stone and the fanning-mill during boyhood and youth, we like the crank movement of the Nonpareil. Women accustomed to the old washboard, like the vertical motion of the Doty machine.

A Batch of good Bread.—A lady subscriber at Moreau Station, N. Y., wishes the readers of the *American Agriculturist* to try one batch of bread made thus: "Take one large or two small potatoes for one loaf, pare and slice thin, boil to a mush in a tin or porcelain dish, with a pint of water; when done, put a small quantity of good home-made yeast (say a tablespoonful) into this potato mush as early as 4 P. M. the day before baking. At bed time add flour to make a sponge; add a teaspoonful of salt: keep at a warm temperature. In the morning knead out, and bake when light.

A Lemonade always at Hand.—Conveniences are rapidly multiplying in these days. Gail Borden is concentrating milk, cider, and coffee, so that we can carry a week's supply in a tin box, and always have them at hand for instant use. Dr. M. Morris of this city is making an equally convenient preparation, which one can carry in his pocket, and with a tablespoonful of it put into a tumbler of water, produce a very excellent lemonade, as we can testify from a year's trial. It is made of the pure ingredients prepared from lemons, with the addition of powdered white sugar, and preserved in small tin boxes. It is already largely called for in the army, especially in the hospitals, while it may be well kept on hand in the family for use in sickness, or whenever a pleasant acid drink is required.

Maine Agricultural College.—At a recent meeting of the Maine State Agricultural Society it was resolved that the Society deem it advisable that the funds from the Government grant to Agricultural Colleges be expended for the establishment of a model farm and college, separate from any existing institution.

Mass. Agricultural College.—The Springfield Republican says three towns have made proposals for the location of the State Agricultural College within their limits. Northampton offers the Smith fund charities, amounting to some $48,000, due in about three years, if some technicality of the will is set aside. Amherst will give $25,000 cash, and the use of $100,000 in buildings, with other privileges. Mrs. Carv, a wealthy lady of Lexington, offers, in accordance with her husband's wishes, a farm of 140 acres, worth with its appurtenances $25,000, and $25,000 in cash, on condition that the Legislature give $50,000, and the people of Lexington $50,000. The State requires $75,000 to be first raised as a condition of the location of the College.

United States Agricultural Society.—Officers elected for 1864: *President*—B. B. French; *Secretary*—Benj. Perley Poore; *Treasurer*—Jas. F. Brown; *Executive Committee*—Isaac Newton, Commissioner of Agriculture, John Jones of Delaware, F. Smith, N. H., Ward H. Lawson, Ill., W. B. Todd, Dist. Col., Jas. S. Grinnell, Mass., and J. R. Dodge of Ohio.

Maine Board of Agriculture.—The following officers for 1864 were elected at a meeting held Jan. 20th. *President*—John F. Anderson; *Vice President*—Calvin Chamberlain; *Secretary*—Stephen L. Goodale

Conn. State Agricultural Society has elected the following officers for 1864: *President*—E. H. Hyde, of Stafford; *Recording Secretary*—W. W. Stone, of New-Haven; *Treasurer*—F. A. Brown, of Hartford; *Chemist*, Prof. S. W. Johnson of Yale College.

New-Jersey State Agricultural Society.—The annual meeting of this Society was held at Trenton, Jan. 21st. The attendance embraced many of the leading agriculturists of the State. Prof. Cook of New-Brunswick, made a report of a geological survey from the eastern to the western boundary of the State, including portions of Union, Somerset, Morris, and Warren counties, which present nearly all the geological formations of the State. Dr. Trimble reported on Entomology, with particular reference to insects that destroy fruit. The following officers were elected: *President*—P. A. Voorhees; *Cor. Secretary*—L. R. Cornell; *Rec. Secretary*—Wm. M. Force; *Treasurer*—Benjamin Haines. A Vice President from each Congressional district, and an Executive Committee consisting of one member from each county, were also elected.

Penn. State Agricultural Society. The following are the officers for 1864: *President*, Thomas P. Knox; *Corresponding Secretary*—A. Boyd Hamilton; *Chemist and Geologist*—S. S. Haldeman; *Librarian*—John Curwin, M. D. The time for holding the next Annual Exhibition is fixed on Sept. 27th to 30th. No place is designated, but the Secretary is directed to invite proposals and subscriptions from county societies and localities desirous of securing the Fair, and to report at the next meeting in March.

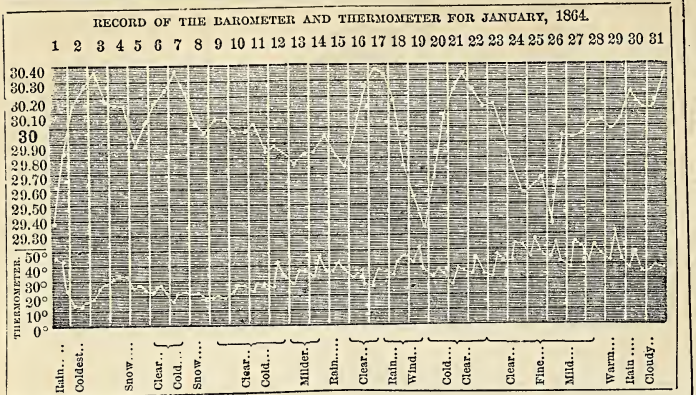
Ohio State Board of Agriculture.—The following officers have been elected for 1864. *President*—Nelson J. Turner; *Recording Secretary*—Wm. F. Greer; *Corresponding Secretary*—John H. Klippart; *Treasurer*—David Taylor; *Directors*—Thos. C. Jones, James Fullington, Wm. B. McLung, Darwin E. Gardener, Wm. Dewitt, Wm. R. Putnam, Daniel McMillen. The next State Fair to be held at Columbus, Sept. 13. to 16.

The York (New-Brunswick) Agricultural Society, at its annual meeting, elected the following officers: *President*—John H. Reid; *Secretary*—James S. Beck; *Treasurer*—John A. Beckwith; *Executive Committee*—Julius L. Inches, S. Fleming, T. Temple.

Correction.—The directions for curing hams and beef in Feb. No., page 54, came from Burlington Co., N. J., not Iowa, as there stated. Want of plainness in the manuscript also made us call the meat the "Jersey Red"—Mr. Hulme writes that he intended to say: "This is known as the "Jersey Receipt."

A Cheese Factory is to be erected in Cheshire, Mass., 100 by 30 feet in size. It will be ready for occupancy this spring, and it will be sufficient to consume the milk of 400 cows. Another edifice of about the same size is to be erected near Cheshire Corners.

Animals, etc., at the N. Y. Central Park.—Frequent contributions of animals, birds, etc., from our own and foreign countries, are being received by the Commissioners of the Central Park. We notice among recent arrivals a fine young American eagle, and a pair of live prairie chickens. A buffalo, elk, and a pair of antelopes are on their way. The establishment of a Zoological department at this point, which has already been commenced under favorable auspices, is of no little importance to students and to the country at large. There should at least be representatives of all our native animals and birds, and this may be accomplished with comparative ease. Many readers of the *Agriculturist* either personally or through their sportsmen friends, can secure specimens of much value, and thus aid the enterprise



The above Diagram is arranged to exhibit the daily variations of both the Barometer and the Thermometer. In the upper part the horizontal spaces stand for *tenths of an inch*, above and below 30 inches.—In the lower part, each horizontal space stands for 10 *degrees* of the Thermometer. The white dots indicate the hight of the mercury at the morning, noon, and evening observations.

A Noble Work for Every Reader to Engage In.

It was our lot to be among the first to visit Gettysburg after the memorable battles on the 1st, 2nd, and 3rd days of July last. The scenes there witnessed can never be forgotten. In the presence of the suffering, every thought of mere curiosity, or of personal comfort, was instantly banished, and no more satisfactory effort have we ever put forth, than that of laboring there to alleviate the pain, and to promote the comfort of the sick and wounded, of both friends and those but recently foes. Strange it may seem, but with others we can testify, that a wounded enemy excited scarcely, if any, less sympathy, than an own brother would have called forth.—Strong as was, and is, the impression left by the mangled corpses, the ghastly wounds, and the quiet but deep agony of the suffering, another and a more pleasing recollection brightens the terrible picture. The thankful words, or the yet more touching grateful looks of the wounded men, as the reward of the attention possible to give them under the circumstances, are yet vividly before us. Even the cup of cold water, presented to the parched lips, brought to the *giver* an instant and abundant reward. We then realized, as we now wish to have every reader realize, the necessity and the blessedness of the great work being done by the "U. S. SANITARY COMMISSION." Their depot, established on the field almost before the smoke of the conflict had rolled away, was thrown open with supplies of just the articles needed. Reader, could you have been with us and others, as we hastened to and from that tent in the hospital camp in grove, bearing in our hands wine, brandy, and other stimulants for the fainting, portable soup and soft biscuits, concentrated coffee and lemonade, with other articles of food and drink; bandages for wounds; under-clothing for those carried to neighboring tents and hospitals; could you have helped bear these things to the wounded men, you would surely say, let the coffers of this noble Commission never for one moment be empty. Why! what we *saw* done, and helped do, on but a small portion of the field then occupied by the Commission, was enough to warrant all the contributions that have been or may be made to this Commission.

But the Sanitary Commission extends its labors and furnishes its supplies to every part of the broad territory embraced in the war. What we witnessed at Gettysburg is repeated after almost every battle. Our associate, Col. Weld, speaks from personal experience away in the distant Southwest. While being carried, with hundreds of other sick and wounded before Port Hudson, to the hospital at New-Orleans and while an inmate there, the whole of them were supplied with necessaries, comforts and delicacies from this source, which could have been obtained in no other manner, and which greatly aided in his own recovery and that of his companions.

These widely extended operations involve not only immense labor, *freely* given by the leading men in the Commission, but large funds are required. The noble gifts from California supplied these freely for a time, but even that was far too little, and at the opening of this year the treasury was nearly empty. The East and the West, by means of great fairs, are vieing with each other in raising money and other supplies, but there is still abundant room for more effort. Every added dollar may carry some comfort to a brother or a friend of the giver—what if it do the same for a sick and wounded enemy, even,—will it not be well given?

Let us propose a plan. The *Agriculturist Family* is a magnificent one—the subscribers soon to be a hundred thousand, and the readers hundreds of thousands. Can not we unite our mites, our pennies, our dimes, our dollars, our five dollars, and make up one great contribution to this noble work? What a sum if every reader should give or collect a single dollar! *Let us* do *it*. Many have not the ability perhaps to give a whole dollar, though when we set about a good work in earnest, it is sometimes wonderful what we can do. Let those who can not give so much, ask others for aid, and get together from others at least a dollar. Some can give or collect five, ten, twenty or more. Our readers in Canada, and in the other British Provinces, who sympathize with us in our affliction, may desire to contribute to aid the suffering. Remember that this is no *party* work; the Sanitary Commission seeks out and relieves the suffering, no matter on which side of the line of battle they may be found.

We propose to all who feel disposed to join in this work to send their contributions to this Office and we will hand them direct to the Sanitary Commission.

All contributions of $1 and upward will be acknowledged in the *Agriculturist*, or in a Supplement if needed, the names classified by Towns, Counties, and States. Let every man, every woman, every child, put a hand to the work, and let the world see what the Agriculturist Family *can* do when they all work together. Let us have responses from the Sunrise regions of Maine to the most distant point in the Territories beyond the Rocky Mountains, for our readers dwell there! This is a pleasant work for the Children. We know of five little boys who collected $23 in pennies and half-dimes, and sent it to the Commission. Let us have the ages of the children who collect and forward money to the

AGRICULTURIST SANITARY COMMISSION FUND.

P. S.—The first Cash Subscription to the above fund is from the *Agriculturist* itself, viz.:.....**$300.00**

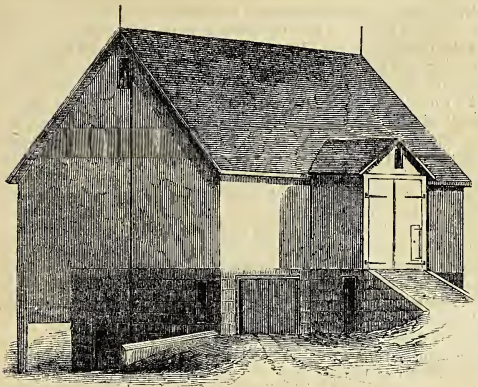
N. Y. State Agricultural Society.

At the Annual Meeting, held at Albany, Feb. 10th and 11th, the show of Seeds and Dairy products was unusually small. Considerable excitement occurred with reference to the location of the next Fair, whether at Utica or Rochester. Finally, by common consent, the matter was left with the Executive Committee, who will doubtless be influenced by the best proposals received. Some remarks were offered by the Editor of the *American Agriculturist*, urging the importance of the Society's taking a higher stand in regard to awarding Diplomas and Premiums, to the end that these should not become so common and so cheap, as to lower their value, and the character of the Society itself. Some discussion ensued, and there was a general agreement that more discrimination should and would be exercised hereafter.—Mr. Judd called up the importance of experiments upon new potatoes, diseases, etc., made by Rev. Chauncey E. Goodrich, of Utica, who has for many years devoted all his spare time and his income to this subject; and now, owing to pulmonary disease, is unable to earn even his former small salary as Chaplain. A number of gentlemen bore testimony to the importance of these experiments, some estimating their value to the farmers of New York State alone at many million dollars. Mr. Judd then proposed a testimonial to Mr. Goodrich, from the farmers themselves, as individuals, not as a Society, and started the list with a check for $50. Several other gentlemen (of whose names we have not yet a record) handed in similar sums, and others lesser amounts, and nearly $600 was made up at the time, which will doubtless be increased. Luther H. Tucker, Esq., at Albany, the Treasurer of the State Society, was nominated treasurer of this special testimonial fund, and to receive further subscriptions, either directly, or through the other members of the Committee, appointed for the purpose, viz: Hon. A. B. Conger, Haverstraw, N. Y.; T. L. Harrison, St. Lawrence Co., N. Y., and the Editor of the *Agriculturist*, N. Y. We hope, all who feel interested in the matter, will contribute whatever they may feel disposed to give, from $ upwards. We can well afford to place Mr. Goodrich in a position to continue his experiments, and the introduction of further new seedlings of this important crop.—At the Wednesday evening meeting, very interesting papers were read by J. Stanton Gould, Esq., on Sorghum, and by Dr. Asa Fitch, on Insects, especially on the Cut Worm, to which we may refer hereafter.

Officers Elected for 1864: *President:* James O. Sheldon, of Ontario Co.—*Vice Presidents:* 1st District, Simon R. Bowne, New York City; 2nd, Samuel Thorne, Duchess Co.; 3rd, Herman Wendell, Albany; 4th, T. L. Harrison, St. Lawrence Co.; 5th, Solon D. Hungerford, Jefferson Co.; 6th, Ralph Newell, Delaware Co.; 7th, H. Ten Eyck Foster, Seneca Co.; 8th, Wm. A. Bird, Erie Co.—*Executive Committee:* Samuel Campbell, Oneida Co.; R. H. Avey, Madison Co.; T. C. Peters, Genesee Co.; S. R. Pinckney, N. Y.; Elon Comstock, N. Y.—*Cor. Secretary:* Col. Benj. P. Johnson, Albany.—*Recording Secretary:* Erastus Corning, Jr., Albany.—*Treasurer:* Luther H. Tucker, Albany.

How to Get Laborers Direct from Europe.

In the *American Agriculturist* for February (page 35) we explained how to get laborers from among the arriving immigrants. Some are sending direct to Europe for them. Rev. P. Bartlett of Great Bend, Pa., an Englishman, but long a resident in this country, sailed from this port on Feb. 17, to visit his native town, where he is to have the assistance of relatives and acquaintances, and expects to bring over a hundred farm laborers and mechanics. The funds were mainly supplied by farmers and tradesmen in central New-York. It will probably be mostly returned in the wages of those brought to them. The example may be followed in many other places, where a suitable, reliable agent can be employed. There are multitudes of good men in England, Scotland and Ireland, and in Germany, who would be ready to embrace such an opportunity to come to this country. The main difficulty will be to get passage for all who will be coming thither the present spring. Steerage passage in the steamship lines will be very scarce. Those who start in sailing vessels by the middle of April, will be likely to reach here by the beginning of the haying season, and those starting two or three weeks later will arrive in time to help in the harvest of wheat, and autumn work. The expense will not be great. The steerage passage by steamer averages about $30 (in gold). As most of those who would come, would have a few dollars at least, and as they would be under the care of an agent friend, and go direct to the place of labor, probably about $30 in gold or exchange, ($40 to $50 in currency), would suffice on the average for each person sent for. Mr. Bartlett, if as successful as he anticipates with his first company, will probably continue his labors. He hopes to be here at the middle of April. He goes abroad with the highest recommendations of ability and integrity—as we know



Pennsylvania "Double Decked" Barn.

The barns in different sections of the country vary in many points, and could plans of what in each section are considered models of ex-

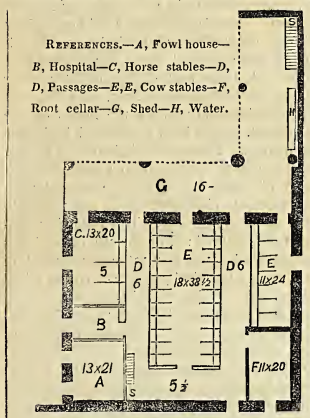


Fig. 2.—GROUND FLOOR.

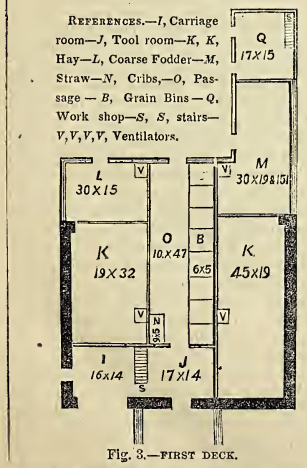


Fig. 3.—FIRST DECK.

cellence be presented, it would be very instructive. We anticipate being able to publish several good plans from distant localities, and this month give one from Chester Co., Pennsylvania, furnished by Alfred D. Sharples, who writes thus: "I have been eating the good fruit of your table for the last seven years, and it occurred to me quite recently that I ought to help replenish in equal ratio. I send a design for what Pennsylvanians call a "Double Decked Barn." It is built on a hill-side, to face north or east. This one, suitable for a farm of 100 to 150 acres (according to capacity of the soil,) is 64x60 feet; ceilings of the lower stories 10 feet high; 3rd floor 16 ft. to the eaves. I believe this building combines the advantages of all the tumble-down concerns usually found on a farm, in as neat and compact a form as they can be placed, The cost will be influenced by local circumstances. With us the expense would be from $2000 to $2500, when hands can be found, but a figure higher now."

Friend Sharples does not mention to what use he puts the space under the corn cribs, entered from the middle floor. So we will call it a fruit room, with an ice-house in the rear of it—that is, under the slope, or "'proach" as it is sometimes called. The ventilators, used also as hay shutes, appear to discharge into the peak of the roof. This is undesirable and one or two outside ventilators, like the one represented, (fig. 5,) near to which the ventilating trunks should rise, would make the ventilation more effective, and the breath, and exhalations of the stock would not be condensed upon the hay in the loft.

Scarcely two farms, or two farmers rather have the same wants, and so any general barn plan must have considerable elasticity, that it may be adapted to these varying necessities. When, for example, there is no good side hill whereon to place the barn—the middle floor might be entirely omitted, some of the cattle stalls put in the shed, closed in, and thus space made for the grain bins, tools, etc., on the ground floor. The amount of corn raised upon different farms varies so much that in many cases such provision as is here made would not be adequate. The loft above the shed, or an independent corn-crib, would be necessary. Hog pens are perhaps kept away from the barns in Chester county. This is not a bad plan in some respects, for where most

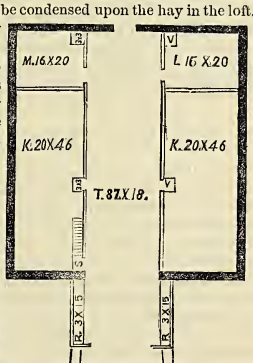


Fig. 4.—SECOND DECK.

References.—K, K, Hay—L, Corn-Fodder—M, Straw—R, R, Corn Cribs—T, Threshing floor and wagon house—S, Stairs to first floor—V, V, Ventilators.

economically raised and fattened, swine should have cooked food, and a fire close to a wooden barn is undesirable. Still at the end of a 60-foot L a boiling house with hog pens adjacent would

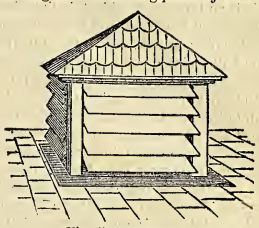


Fig. 5.—VENTILATOR.

be conveniently near, and yet distant enough to avoid danger from sparks if coal fuel is used.

It will be noticed that, according to the drawing, the threshing floor is nearly 18 feet wide. (We have followed the plan closely in the engraving). This is much wider than is generally considered necessary; 15 feet is wide enough, This width of the floor would admit of larger hay and straw bays, of larger corn-bins, and besides, of the great convenience of *sliding doors*. Sliding doors about a barn, particularly great doors arranged on top rollers, are among the greatest improvements of modern farm architecture. In high winds swinging doors are really very dangerous—and in such a position as the plan presents, the great doors are particularly exposed and might easily cause fatal accidents.—Sheep raisers will look in vain for a place for their favorites. The sheep quarters might be provided in sheds, extended more or less, according to the size of the flock—or a rearrangment, to a certain extent, of the ground floor might be made for their accomodation.

Seeding down with Spring Grain.

Grass stands a dry summer better when sown in autumn than in spring. Still this cannot always be done, and we must sow grass seed at this season. If sown alone on spring plowed land, the soil should be well mellowed and a great abundance of seed put on. Farmers seldom use enough seed. After sowing, light soils should be rolled, and heavy ones either bushed or let alone altogether. If sown with spring grains, there should also be a liberal quantity of seed used. The varieties must of course depend upon the land and the demands of the farm. For permanent meadow, the greater the number of kinds, the better. The grass seed should be sown after the grain is covered, and left upon the surface to be washed in by the rains. A light dressing of gypsum and wood-ashes is very beneficial after the grain is well up and covers the ground somewhat.

Clover Sown on Winter Grain.

When the frost is fairly out of the ground and the soil is left light and porous, the seed of clover may be sown. If a light fall of snow can be taken advantage of, this is best, for the seed may be seen, and the uniformity of the cast regulated. A few days after sowing, roll dry soil—that is after the snow is off, and of course when no frost remains and when cattle can go upon the ground. It both benefits the grain and covers the seed. Sixteen pounds of seed to the acre is not too much on a good clayey loam.

Breaking Prairies—The Opinion of an Old Pioneer.

This is an important subject, both to those already living at the West, and to those who contemplate going thither. There is much to be said on both sides of the question of making the first plowing *deep* or *shallow*, and we are glad to have the subject, within reasonable limits, fully discussed in the columns of the *American Agriculturist*, which circulates more widely than any other journal all over the prairie regions, even to the most distant points penetrated by the pioneers. In our December issue (page 363) and in January (page 11) we have given one side, and below is an intelligent letter on the other side. Judging from considerable actual observation, our own opinion has been, that for *immediate cropping*, turning over a thin sod is best. The grass is speedily killed at the top, and the lower roots are smothered. If, after taking a summer corn crop from this, it is turned deep under, the new soil brought up is ameliorated by winter freezing, and is then ready for a spring crop. If the deeper new soil, that has long lain below the free access of air, be turned up and planted to corn, it will not do well. If plowed deep in early summer, and left thus, it will be moderately fitted for autumn or spring wheat, and the slowly decaying sod beneath will furnish a good nest, as well as food for the wheat roots. We should therefore say, that the question depends very much upon the *relative* importance of the first season's corn crop, as compared with that of the following wheat crop. If a good yield of corn is imperatively necessary to a new settler, let him break shallow at first and plow deeper afterward. If he can wait for the wheat, and also to get the best possible *future* condition of the soil, let him at once mix the surface sod with the lower soil, some of it at least as deeply as possible. But hear our correspondent:

To the Editor of the American Agriculturist:

Having had about as much experience as a prairie breaker, as any pioneer who remains among us, and although assenting, in the days of yore, to most of the averments of Messrs. Darby and Barrett, in the Dec. *Agriculturist*, I, at the present time, decidedly dissent from some of their conclusions. Twenty years ago I deemed that the best breaking which was the shallowest, and boasted that I could cut and cover at less depth than two inches. Even *now*, I have no doubt this depth is about right for the *special* purpose of putting in a crop of *wheat* the same season, before the autumnal equinox. Yet even then, I thought it well to go three or four times as deep, in *cross-plowing* the ground for corn.—Breaking prairie is a work accompanying pioneer life, and as oxen are the best teams for most pioneers, they are best to break up prairies. Horses, to do much at the business, must have a good supply of grain or they will run down, and grain is a costly article with pioneers, while prairie grass is most abundant. Strong ox teams may be *hurried* throughout the proper season of breaking (say from fifty to sixty days, commencing as soon as there is a full bite of grass for the teams) and yet increase in flesh. I have broken 15 acres by the week, with five and six yoke, without reducing the condition of my team. To do a first rate business at breaking, in timber lands or "barrens," much of the team should have horns, because in all such places the plow should go as near a foot deep as possible. Two pioneers being neighbors, and having between them four yoke of good cattle, and some steers, may unite their forces, and break more and far better, with such a team, and the *right kind of a plow*, than three men, each plowing with a span of horses, would be at all likely to break. Some dozen years ago, I remarked to a friend, who was breaking in "the barrens," with rather a light team, that he had better increase his team, so as to break his ground fully twice as deep. After debating the question at length, he added six head to his team and broke accordingly. Several years afterwards, that friend assured me that the line where the depth of the breaking was doubled, had been manifest in every crop he had grown upon it since. Experience and observation justify me in saying to all who can open farms, where the soil and climate are similar to that of Illinois, break or plow all of the rich loams at least one foot deep. This is imperative, if they would grow abundant crops of corn. No good farmer should aim at less than 70 or 80 bushels to the acre, which is more than twice what Illinois farmers commonly get. If any one will manage his corn field "first rate" in all respects, I will add 20 bushels to the above, as what he may reasonably aim to secure—this, without using a hoe after planting. Such plowing will also very much increase the yield of most of other crops, small grains and grass. In light, sandy soils, turning up the ground 12 inches deep, might not only fail to pay well, but might be in some cases deleterious on account of letting fertilizers sink too deep into the ground. Let me further say to the pioneer who is constrained to break shallow, and as late as in the month of June, to grow a crop of sod corn. Get for seed, either Canada flint, Rhode Island Premium, Squaw corn, or some kind which will mature in sixty days. I have put out, such as I got from the Indians, called Squaw corn. The ground was broken as late as the 12th of June, less than two inches deep, and the yield was very good. It ripened fully in August. Still, had July and August of that year been as dry as those months often are, it is not likely I should have got my seed back. J. WELDON, Winnebago Co., Ill.

Spring Plowing.

The labors of seed time always crowd the farmer, so the earlier the plow begins its work, the better. On soils of a sandy and porous character plowing may best be done as soon as the frost is out of the ground. Where clay preponderates, or in soils rich in humus, the action of the sun is needed for several days. It is very bad to plow clay ground too wet, and all that surface and under-drains can accomplish will not do away with the necessity of the drying northwest winds and clear weather "looked for about these days."—Thorough draining often makes a difference of weeks and even months in the time the land is fit for the plow. In plowing sward for spring grain, turn it flat and deep, so that the harrow or seed drill will not disturb it. If manure is to be plowed under on old ground, bury it with a shallow furrow, just deep enough to keep the strawy portions out of the way. Very strawy manure on land to be sowed with wheat, oats or barley, may well be spread in the furrows behind the plow, where very nice work is to be done. When land needs liming—and before a crop of wheat, a dressing of lime is often of great service; sow the lime before plowing, rather than to be subsequently harrowed in. Though on ground rather cold and full of vegetable mold it is well to plow under say 15 to 20 bushels of lime to the acre, and top-dress with 8 or 10 bushels afterwards.

Back-furrowing is practised by many good farmers to prevent the accumulation of a mass of rich soil against the fences. This is done by marking out the lands, of course as large as possible, and throwing a couple of light furrows together through the centre and then plowing right about, around them. If the first turned furrows do not go to the end of the field, at the proper time the plowman may begin to plow across the end of the land also. When the right calculations are made, the field may be left without dead furrows, except where it may be necessary to have two or more lands in the same field. This, where the land admits flat culture, requires no dead furrows or ridges.

Cotton Growing by Northerners.

The disastrous frost, last August, gave northern cotton growing a pretty decisive check. Though this frost was altogether out of the usual course, yet the most sanguine now hardly claim that this southern production can ever become a *staple crop* above 38° north latitude, except perhaps in a few specially favored locations. There is, however, a field opened for northern enterprise and capital upon which pioneers have entered with fair promise of success. A large part of the country along both sides of the Mississippi river, from Memphis to New Orleans, is now in the hands of the government, having been abandoned by its disloyal owners. Three Commissioners of Plantations have been appointed to superintend the leasing of these lands, for the present year. They meet at Vicksburgh every few weeks, to decide upon applications. The following conditions are required: For the use of the lands the occupant engages to pay the government, in lieu of rent, a tax of $4 per bale of cotton raised thereon, and 5 cents per bushel of corn and potatoes, and to pay one half the value of the ungathered crops that may be on the farm at the period of entering upon it. The lessee has to employ at least one able-bodied negro to eight acres of improved land, permitting the children of the employed person to accompany them, and engage to feed and clothe them, and to permit the children to attend the nearest school. The wages to be paid the hands are as follows: Seven dollars per month to able-bodied males over fifteen years of age, five dollars per month to able-bodied females over fifteen years of age, and for children between twelve and fifteen years of age, half price—it being understood that no person under twelve years of age shall be required to labor as a field hand. Applications to the Commissioners are to be made in writing accompanied by proof of loyalty, and pecuniary and business capacity to carry on a plantation. Necessary passes may be obtained at any military post on the Mississippi on the presentation of the references which a person going there on such business should have. Lessees can purchase supplies of Quartermasters at military posts within the cotton region.

Those who engaged in the business last year are reported to have made money. The drawbacks to this enterprise are the large amount of capital required, and the liability to rebel raids. Both these may be in a measure obviated by association of parties, although there are doubtless small plantations where $3000 to $4000 might suffice. Colonies of men of the right stamp scattered through the valley would very soon put a quietus to guerrilla sor-

ties, and their united industry would bring a degree of thrift heretofore unknown in that region. Thus the cotton plant which has heretofore been associated with oppression of the laborer and defiance of justice and law, may ultimately be twined with the olive branch to symbolize lasting peace and industry.

The Field Culture of Asparagus.

The following extracts from a prize essay, by Daniel K. Young, Esq., of Queens Co., N. Y., will show the way in which this important crop is planted by those who grow it on a large scale for market. Mr. Young considers that a deep fine sandy soil is to be preferred to all others.

SEED BED. — Starting with the proposition that only roots of one year's growth should ever be transplanted, as older ones are liable to get mutilated in digging, and are every way less convenient without any corresponding advantage, it becomes important to obtain the largest possible growth the first season. For this, a clean, sandy soil is almost indispensable, made rich with fine manure, well worked in. Rake smooth and fine, and plant in drills, fourteen inches apart, two inches between seeds.

To insure an even stand, it is better to drop the seed by hand, as it is difficult to regulate even the best seed drill to drop one seed at a time at regular intervals; cover an inch deep and finish with a light garden roller. As the seed is slow to sprout, early planting is advised, to get a start of the weeds; even in a cold wet spring there is little danger of the seed rotting, and it may be safely planted as soon as ground can be put in good order. As soon as the rows can be seen, work out and keep clean, for there are few crops that will suffer more from careless culture. The following spring turn them out with a plow that will cut about a fourteen-inch furrow, taking one row at a time. Fork over the furrow, throwing the loosened roots to the surface. This should be done before the sprouts are started, and if not convenient to plant immediately, they may be kept for a few days in any cool cellar without material injury.

PREPARATION OF GROUND AND TRANSPLANTING.

In preparing the beds, let the soil be well worked, and manure covered as deep as possible within reasonable limits. This may all be done with proper plows, and at much less expense than by trenching with the spade.— Spread the manure evenly over the surface, three inches thick; then with an ordinary two-horse plow strike a furrow, say six inches deep, follow this in the same furrow with a large one that will penetrate at least eight inches deeper and turn the dirt well out, leaving the furrow clear; after this a light one-horse plow, carefully handled to just turn the manure, with an inch or two of the top soil, into the bottom of the deep furrow; this last is preferable to hauling in the manure with rakes, as it expedites the work, and leaves a clear cut for the next furrow. Continue in this way till the whole field is done; then harrow smooth and mark with a corn marker for rows four feet apart.

Commence on the center mark with the large plow, and trench ten inches deep, driving twice in the same furrow; shovel out the loose dirt to a square smooth bottom; make three trenches this way, and throw in manure two inches thick. Trench three more on each side of these, and then manure as before till all are trenched.—By manuring as fast as three rows are trenched, the inconvenience of driving in the furrows will be avoided.

Before setting the roots, cover the manure in the trenches to within five inches of the natural level of the ground; here care must be taken not to fill in too much, as the depth in the rough state of the ground is very deceptive, and except to a practised eye, appears much greater than it really is. Mark places in the trenches at intervals of 20 inches, drop a root at each mark; let an experienced man follow to arrange the roots, and cover sufficiently to hold in place. After all are planted, cut down the sides of the trench to fill in, so that the roots have an even covering of not more than two inches. When the plants are a few inches high, fill in slightly around them, sufficient to cover any weeds that have started, and continue this at intervals of two or three weeks till the ground is level; then, as occasion requires, use a cultivator or plow, and hoe to keep clean. As soon as the tops are killed by frost, mow off and burn; with a small plow turn a furrow each way from over the row, hoe out the narrow centre that is left between the two furrows, leaving a clear, shallow, middle furrow directly over the crowns, put manure in these, turn a furrow from each side over it and leave for the winter. When the ground becomes settled in the spring use a light harrow lengthwise of the rows to flatten the ridges, and just before the shoots appear pass a light harrow over them to smooth the surface, leaving the ridge about two inches above a level, and fully six inches above the crowns.

Emigration Societies Wanted.

Public attention is being awakened to the immense importance of the tide of emigration setting hitherward from across the Atlantic. Thus far the movement has been in a measure spontaneous, or without general systematic attempt to increase or direct it. The sons, brothers, and daughters, on this side, have sent over to their relatives and aquaintances in Europe accounts of the encouragements offered to workmen in every department of labor. Their letters, though less polished than the statements published by the newspapers, have been more telling, because more reliable and more certain to reach the right class. Statesmen in England who have wrongfully accused this government of recruiting its armies in Ireland, appear to have forgotten that echoes from America are heard weekly in almost every transatlantic workshop and cabin. The doleful diatribes of the London Times and its congeners are little heeded by those who, week by week, receive letters filled with glowing accounts of prosperity, and invitations to come and share it. It needs no argument to prove the desirableness of encouraging emigration, both for the welfare of the incoming strangers, and for the benefit of the nation. The unprecedented development of the Western wilderness into powerful States, and the vast system of public works which have compacted and vitalized the nation, are convincing evidence on this point.

The formation of the Society for promoting emigration, noticed in the February *Agriculturist*, was most opportune, but there is scope enough for such an institution in each State, and some are already moving in the matter. At a recent meeting of the Executive Board of the Illinois State Agricultural Society, it was unanimously resolved to recommend to the Germans and other foreigners of that State to form an Industrial Association, for the purpose of collecting statistical and other facts bearing upon the subject, and presenting them to their friends in Europe. A united movement of this kind in every State, under the direction of resident immigrants, would command greater confidence on the part of foreigners, than could be induced by statements from almost any other source. Within the next four months every town in those parts of Europe from which emigration might be expected, should be supplied with reliable information on the soil, climate, productions, demand for labor, market facilities, and similar topics; and every one intending to emigrate should be minutely instructed, just how, and at what cost he may reach any desired location. This is all the more desirable and necessary, because of the cruel and shameless impositions to which newly arriving parties are frequently subject. We commend the matter to the attention of State and County Agricultural societies, and to the large number of our German and other readers of foreign birth. We may perhaps give some items on this subject, in the outside sheet, printed at a later date.

Sowing Spring Wheat.

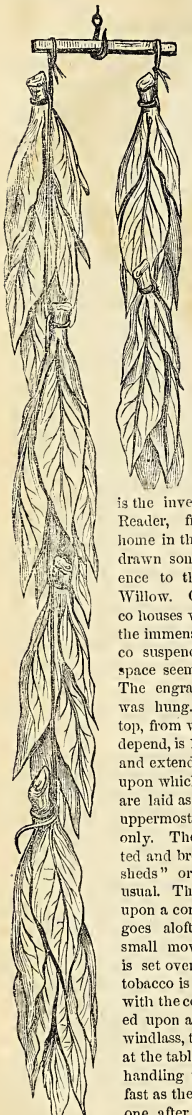
The nature of the wheat plant is to make roots and tiller in cool weather, before sending up its stem. Sown early it has a chance to do this before the warm weather of May draws it up to a head. On this account less grain is needed to sow an acre of winter than of spring wheat. Any early, moderately rich, loamy soil is good for wheat, but it ought to be dry or drained thoroughly. Spring wheat is better adapted than winter wheat to heavy but well tilled clays, on which wheat winter-kills by being thrown out by the frost. It is always best to plow in the fall; where this has been done, a light dressing of fine manure may be harrowed in almost as soon as the frost is out and the wheat sown. In ease it is necessary to plow in spring, turn under strawy manure or a muck compost to give lightness and porosity to the soil, if it is a heavy one. And unless the soil is in excellent tilth, do not put the manure very deep. If the wheat is sown late, more seed is needed. Sow at least 2 bushels, at most 2½. The best way to prepare the seed is to pour it into a strong brine in which one or two ounces of powdered blue vitriol to the bushel of grain is dissolved. The brine floats off the imperfect grains, chess, oats, and foul seeds, while the blue vitriol destroys the spores of the smut or rust plant. After the brine has drained, it may lie in a heap several days before sowing, at which time it should be rolled in slacked lime (dry) or gypsum to dry it. If possible, drill in the crop—it saves half a bushel of seed to the acre, and adds several bushels to the harvest.

Starting Early Potatoes.

A crop of potatoes ready for the table early in June, may be secured without great trouble. If seed potatoes are brought into a warm room about the first of March, the eyes will start rapidly, the nourishment in the tubers will sustain them for two or three weeks, by which time they may usually be planted out in some favorable spot. Of course, care must be taken in planting out not to break the sprouts. Or the tubers may be planted in a hot-bed of moderate temperature, about the middle of the month. Cut them in halves, lay them flat side down, as thick as they can be placed, and cover with about two inches of earth. They may be transplanted when two or three inches high. They should be removed carefully, separating the roots with as little injury as possible. They will not be likely to yield a full crop under this treatment, and may therefore be planted more closely, say in drills thirty inches apart, and twelve inches apart in the drills. Another method is to put pieces of potato in small squares of turf, set them close together in a warm place where they can be watered readily. On cold nights protect them with straw. When large enough they can be set out, turf and all, without disturbing the roots. This might not pay on a large scale, but enough may thus be brought forward for a family supply, until the main crop is mature enough to draw upon.

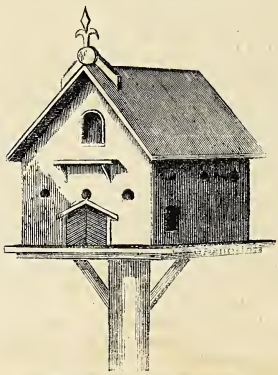
Hanging and Curing Tobacco.

No class of people are more ready to investigate labor-saving plans, suggestions, or machinery, than American farmers. In this they differ essentially from many of their fellow craftsmen in other countries. Yet, even here no real labor-saving implement can be easily introdueed into common use, unless it is patented, and somebody made particularly interested to introduce it, explain its operations, and vaunt its good qualities. We, however, here present to the readers of the *American Agriculturist*, a simple and very handy *unpatented* contrivance for hanging tobaccco, by which may be saved much labor and time, and from one half to two thirds the usual space. It is the invention of Mr. Joseph Reader, from whose island home in the Delaware we have drawn some lessons with reference to the use of the White Willow. On visiting his tobacco houses we were struck with the immense quantity of tobaeco suspended. Every inch of space seemed to be occupied. The engraving shows how it was hung. The stick at the top, from which the two cords depend, is 12 or 14 inches long, and extends between two joists upon which it rests. The joists are laid as for a floor, in the uppermost part of the building only. The tobacco is cut, wilted and brought to the "curing sheds" or "tobacco house," as usual. The plants are unloaded upon a convenient table. A boy goes aloft, where there is a small movable windlass. This is set over the place where the tobacco is to be hung. A stick with the cords upon it, is lowered upon a hook attached to the windlass, to two men who stand at the table below. These men, handling the tobacco plants as fast as they can pick them up one after another, hang them upon the cord, which meanwhile is being drawn up by the boy at the windlass. By a double-spooled windlass one pair of eords may be let down while another is being wound up, and thus no time lost. In this way the tobacco is hung very nearly, if not actually, as fast as the plants can be handled. The sticks are suspended upon cleats between the joists; and the windlass may be shoved about upon the top of the joists. Each plant is hung by a simple turn in the cord—as a sailor would say "by a *half-hitch*, the running part to jam." The plants lap more or less, according to the judgment of the hanger. The distanee apart of these strings, is the least possible, so that the plants will touch, but not crowd each other.



When the plants first taken in, have dried somewhat, they are easily moved closer together, by simply slipping the sticks on the cleats. Thus fully one third of the room can be regained if one's tobacco does not ripen all at once. The cord used by Mr. Reader is 3-strand cotton, twisted very hard, and capable of sustaining a much greater weight than the 6 or 7 plants hung upon it. It has been in use several years.

"Well—this all looks very well on paper," says some reader, "but do other people make it work as well as Mr. Reader?" Yes Sir. There is an extensive and very fertile region across the Delaware, in the heart of which is the old Penn's Manor, where tobacco culture has received much attention. There, and in the contiguous parts of New-Jersey, we learn, all the new tobacco houses are built upon this plan, and it is very highly approved. The unbiassed judgment of neighbors thus given in favor of any new project, or system of eulture, or apparatus, seems to be conclusive evidence of excellence.



Bird Boxes and Houses.

Birds are a joy about any house. Blithe, cheerful, musical, industrious, they impart of their pleasant tempers to the air almost, and make the garden and all their haunts lively with happy animation. Their use to the farmer and gardener has often been commented upon. They are indeed almost the only effective check to the increase of many species of destructive insects, and must be regarded by all tillers of the soil as most valuable collaborators. Those birds, which naturally build their nests in holes, take up their dwelling in bird houses very readily, if these be provided. Martins, bluebirds, and wrens are of this kind, and where houses suited to their wants and tastes are provided, they will almost always be filled. We give several very simple plans for bird houses. The first represents a small bluebird or martin house, to be set upon a post. It is about 7 or 8 by 10 inches in outside measure, divided into four compartments, each about 4x6. These are entered from different sides of the house, and each well ventilated by holes bored in the sides near the top, or by spaces left open in the gable ends for the upper tenements. In larger houses, the entrauces to boxes on the same side of the house should be as far apart as convenient, so that adjoining families shall not disagree. Martins are very cleanly birds, but noisy. Bluebirds will not agree with them at all, so it is best to put up martin houses after the bluebirds have come and established themselves, as the martins arrive later. Fig. 2 is a single bluebird house, very easily constructed, which may be nailed upon a tree or building.

Fig. 2.—BLUEBIRD BOX.

Fig. 3.—WREN BOX.

Fig. 3 is a wren house, 3½ or 4 inches by 5, made also for nailing up. The number of these little busy wrens one may collect about his place by putting up a large number of these houses, is surprising. Two pairs will not use the same house, even if there are several holes. They quarrel with bluebirds and will drive them away, hence it is best to keep them in different parts of the grounds. If wrens have a very small house they will soon fill it with sticks and make a nest; but if the house is large, it sometimes seems as if they did nothing else all summer but fill it with twigs, and tear them out again. So the best way is to give the fidgety little fellows small quarters, that they may devote all their spare time to the insects. Birds dislike fresh paint; if houses are made now to use this year, it is best to simply stain them.

Pleuro-pneumonia, or Lung Murrain.

The Secretary of the Mass. Board of Agriculture, C. L. Flint, again sounds a note of warning which farmers and all who eat meat, should heed. This horrible malady, compared with which the devastations of the most terrible murrains sink into insignificance, exists in Massachusetts, probably also in most or all of the New-England States, and very likely in New-York, and further west. No measures are taken to restrain its spread, and unprincipled men will sell suspeeted cattle to get them off their hands, while honest men *may* unwittingly sell those infected, and thus the disease will surely spread. The losses which may thus be inflicted on this country may, in a few years, equal all the expenses of the war. In the British Islands, the most moderate estimate of the loss by this disease alone, is $10,000,000 a year. Mr. Flint says, that over a million head of cattle died within 6 years ending with 1860, valued at $60,000,000. In addition to this immense number, a great many are slaughtered for beef on account of the disease.—The report to the House of Lords, represents the most reckless traffie in diseased meat, and says that those animals when slaughtered are eommonly eaten (except the lungs) "even though the disease has made such progress as to taint the carcass." "At present there is a keen competition among butchers for a cow in the last stage of pleuro-pneumonia. Diseased town dairy cows realize from £5 to £20, ($25 to $100) each." This state of things, taken in connection with the fact, that live stock insurance companies have nearly all failed on account of the ravages of this disease, has so increased the price of meat that the meat-consuming publie is annually paying $50,000,000 more now for the same amount of meat, than it did the year before the importation of the dis-

ease into England. "The contamination of the animal food-supplies, has affected the health of the people to an extent becoming more and more appreciated, the more the subject is investigated. The tens of thousands of carcases of diseased animals, sold in large towns, are stealing life from human beings when and where we least expect it."—Doctor Gamgee, who was employed in extensive investigations under the authority and direction of the government says: "My opinion became confirmed that the flesh of cattle affected with pleuro-pneumonia, when eaten by man, induces boils and carbuncles *to an incredible extent.*" Of the patients he says they were "seized occasionally with vomiting, diarrhœa, abdominal pains, etc., and have traced such accidents to the meat to such an extent that many refused to eat it. Circumstances compel me to withhold farther details." The contagiousness of the pleuro-pneumonia is established. Of 100 exposed animals, 75 take the disease; of these all are capable for a long time of giving it to others; at least a third of them will die outright; another third will drag out a dying life, and the other third will apparently recover. The facts presented in this letter ought to be laid before every State Legislature, and they should be acted upon, by thoroughly alarming and rousing the people to a knowledge of their impending danger—by encouraging the immediate establishment of Veterinary schools or departments in our colleges, and, perhaps, by the employment on the part of the State of the best Veterinary surgeons who can be induced to come to this country from Europe, for we now have few, if any, who understand the disease.

Notes on the Gopher.—(*Geomys bursarius.*)

Several small quadrupeds, including one tortoise, are called gophers in different parts of the country. The most troublesome of these is represented in the engraving. It is sometimes called the Pocket Gopher, Canadian Pouched Rat, and Mulo. It is especially abundant in the region between the Mississippi and the Rocky Mountains, and extends from the latitude of 52°, southward into Texas. This is a rather clumsy animal, with a very large head and broad nose. Its front or incisor teeth are very strong and prominent, and it is able to bite severely with them. The hind legs are short and small, but the fore legs are long and large, and armed with strong claws. The body is covered with hair, which is short and compact underneath, but longer and more scattered on the back. When young, or just after shedding its hair, the animal is lead-colored, but the usual color is a reddish brown. The length of the gopher is about ten inches, including the tail which is about two inches long. The most striking characteristic of the animal is the large pouches on each side which extend from the mouth to the shoulder blade; these are very capacious, having a depth of three inches, and are lined on the inside with a soft fur. The gopher burrows like a mole, and forms long galleries extending in every direction, about a foot below the surface. He occasionally throws up hillocks 12 to 18 inches across, and about 10 inches high, which sometimes have a hole upon one side, leading to the galleries below ground, and sometimes the earth beneath these hillocks is so carefully filled up that it is impossible to distinguish where it has been removed. A correspondent in Dodge Co., Wis., writes that the animal uses its pouches for "conveying dirt from its subterranean abode to the surface, expelling it so violently therefrom as to throw it to a distance of a foot or more." Audubon, who examined a number of specimens, denies that the pouches are ever used for carrying earth, and says that he never found any thing in them but grass, roots and other food. He asserts that the gopher, like the mole, moves the earth by means of its strong fore paws and head, and that the pouches are solely used for carrying food. The animal has such an acute sense of hearing, and gets out of the way so rapidly, that it is seldom seen, even by those living in the vicinity where it abounds. When out of its hole it moves rather slowly, not travelling faster than a man can walk, and seems to go backward and forward with equal ease. The gopher is very troublesome in some regions, as it destroys roots of almost every kind. Not only grain, grass, and garden crops are injured, but young orchards are frequently destroyed by these voracious animals. They are very difficult to destroy; steel and other traps will sometimes catch them, and it is said that they may be killed by strychnine put into pieces of potato and placed near their holes. In captivity they are very mischievous, gnawing and injuring clothing, and other articles.

The Sap-Sucker.—(*Sphyrapicus varius.*)

When the *Agriculturist* protests against the destruction of birds, it intends to except at least the one which is here figured, as it is one of the few birds that are the farmer's enemies. It is known in many parts of the country as the Sap-sucker, and is also known as the Yellow-bellied and the Red-headed Woodpecker—the last two names indicating its most conspicuous marks, and the first one referring to the popular belief that it sucks the sap from trees. This bird, though it taps the trees like other woodpeckers, does not do it in searching for grubs, but to get at the tender inner bark and the just forming wood which constitute its principal food.. As the holes are generally made in a line encircling the limb, it is so completely girdled that it either receives a severe check or is killed altogether. Not only are orchard trees injured by this mischievous bird, but it also damages forest trees in a similar manner. The name sap-sucker is often applied to the insect-eating woodpeckers, but this is really the guilty one as is shown not only by observation, but by the structure of its tongue which is short and not at all adapted for searching for insects. On account of this and other anatomical peculiarities, naturalists have placed it in a distinct genus from the other woodpeckers. It is singular that so close an observer as Audubon did not notice the manner in which this bird feeds, nor the injury it does to trees. The best account of its habits is given by P. B. Hoy, of Racine, Wis., in the Transactions of the Illinois State Horticultural Society, who recommends "small shot and a sharp look out" as the best means of protecting trees. This is distinguished from other woodpeckers by its light yellow belly, with a black spot in the center of the breast, and the bright red spot upon its head; the male has also red upon the throat. The tail is black, with the two central feathers having their inner vanes white, spotted with black. The bird measures eight and-a-half inches in length, and fifteen across, when the wings are expanded.

An Avaricious Man "out West" is reported to make a practice of always riding in the last seat of a railway train, to save the interest on his fare until the conductor gets around to him.

Value of Poultry.

The readers of the *American Agriculturist* who have not experimented to ascertain the value of poultry as compared with other farm products, may think this subject is made rather too prominent. Ordinarily, enough fowls are kept to supply eggs and chickens for home consumption, with, perhaps, a small surplus for market, when the laying season is at its hight; but comparatively few regard poultry raising as an important item for profit. Yet we believe that with few exceptions, those who have taken pains to keep correct accounts with fowls, agree that no investment pays better on the capital, time and labor required, provided always that the work be properly done. Mr. J. C. Thompson, Staten Island, N. Y., gives us an annual account of his poultry operations. Here are his figures for 1863:

DR.	POULTRY ACCOUNT.	CR.
Jan. 1, 1863, 100 Hens...	$37 50	Old Hens sold....	$ 6 00
Feed for year.....	130 00	New Stock sold..	52 00
Loss—Died and stolen...	12 95	181 on hand.....	67 87
		7348 eggs 25c. doz.	163 50
Balance Profit.....	121 87	100 eggs stolen....	2 08
		Hens died & stolen	10 87
	$302 32		$302 32

No account is given of the number of old and young fowls killed for home use during the year, nor of the manure made, which is quite an item. These are estimated as a fair offset for the labor involved. Mr. Thompson says the result would have been much more favorable, but for the loss of several hens stolen, and the eggs on which they were sitting, which deprived him of early layers to fill the places of those killed, and of the non-layers during the moulting season. He adds to the above account:

"Experience satisfies me that a good stock of *young* poultry—100 head, or 95 hens, and 5 cocks—well cared for, will produce 10,000 eggs per year, weighing 1250 lbs., 250 chicks averaging 2½ lbs. each, or 625 lbs.—making a total of 1875 lbs. of food, besides keeping the original stock good.* It will take six pretty good sized hogs to give the same number of pounds of food, and that of inferior quality compared with poultry and eggs, besides much more heavy labor, expense and trouble. But I do not advise the keeping of large stocks, unless there is ample room. Small stocks of 10 to 25 that will consume the table scraps of a family, can be kept with little or no extra expense.

"Diseases among fowls, and the pest of vermin, are the great trouble among poultry growers. As a preventive of *both*—my experience is decidedly favorable in using flowers of sulphur and red or cayenne pepper in the food. I use a large spoonful of sulphur, and a teaspoonful of red pepper to a gallon of boiling water, thickened with corn and oats ground together, or corn meal, at the rate of 2 lbs. to the gallon, set by them when cold, to eat as they please, once or twice a week.——My stock is principally Leghorn, excellent layers, and not disposed to set; rather wild. Birds not large, but very precocious, laying when three and-a-half to four months old. My experience since March last, with Brahma Pootras is decidedly favorable. They are excellent layers during the winter, while they are hardy, quiet, and very large."

D. Cummins, Ashtabula Co., O., sends to the *American Agriculturist* the statement below, showing even better results, taking into account the lower price for which the products were sold:

DR.		CR.	
Jan. 1, 1863, 113 Hens.	$14 13	955 Doz. Eggs.....	$148 02
28 Cocks.....	3 50	151 lbs. Chickens....	7 55
1 Bbl. Ground Bones.	2 15	141 Fowls on hand..	21 15
18 Spring Chickens...	2 70		
Grain fed	55 29		
Animal Food	9 13		
Freight and Cartage..	3 00		
Balance—Profit.....	83 82		
	$176 72		$176 72

"All the cocks except four were confined by themselves, and killed for the table before the first of April. But three fowls have died during the year. The eggs were nearly all sold in New-York, by Josiah Carpenter, netting me an average of 15½ cts. per doz. The live fowls are estimated at the price here. My hen-house is 18 by 26 feet, one and a half stories high. It was built of plank as tight as could be without using a plane, and then clapboarded. Cellar under the whole building with brick walls, plastered on the inside. The building stands on a side hill sloping to the south, and the cellar is as well lighted as the rest of the building, having three, and the rest of the building seven windows of 14 square feet each. The cellar has a cistern in the north end, that is filled from the roof, and from which the water flows by means of a cock into a trough extending the whole length of the cellar, and discharges outside through a pipe connected with the trough. The first floor is partitioned into four rooms, three with slats to be opened or closed at pleasure, for laying or sitting hens or other purposes, and the fourth one in the north end is small, with tight partitions, and used as a granary. The upper story is the roosting place, and is partitioned off with slat-work into two rooms to be open or closed as below. There is also a ventilator in the roof. The yard is rather small (for land is scarce) twenty by fifty feet, enclosed with pickets ten feet high. My manure is prepared for the garden by adding to it as it lies on the floor under the roosting poles, about once in two weeks, ground charcoal to compose one-tenth of its bulk, also what ashes we have to spare, and the sweepings of the first floor which is sprinkled with plaster. I then throw on some grain and with shovel or hoe stir it up a little, and the hens do the rest, thoroughly mixing and deodorizing the whole mass, and rendering it as easy to handle as so much dry dirt. I consider the manure for my garden and the convenience of always having fresh eggs to use, and fowls to kill for my family, as paying me for all trouble. As to food I give them a variety, making the staple article, that which is cheapest."

* We give Mr. Thompson's statements and estimates as furnished, but caution the reader against taking these as a basis for calculating profits. Thus: he estimates for 95 hens, 10,000 eggs, and 250 chickens which would generally require 400 to 500 more eggs, if we allow for loss in hatching and chickens. To hatch and "nurse" these 250 chickens would require 20 hens at least 3 months—equivalent to 5 hens for a year. This leaves us 90 hens to produce 10,500 eggs, or 117 each, or a nesting of 12 eggs for every hen once in about five weeks throughout the year. This is sometimes exceeded, but can not be depended upon by any means. One half or two-thirds of this will generally be nearer the mark.—ED.

"Sticking to the Old Ways"—A Striking Illustration.

Many methods in vogue upon the farm and in the garden have no better foundation than the fact that "my neighbors or my father always did so." Take all the notions about planting, sowing, etc., according to the stage of the moon, for example. Here is a story that illustrates how a custom may be perpetuated. A few years ago an inspector general, on visiting a provincial European town, found a soldier keeping guard over a ruined building in the suburbs. On asking why, he was referred to the sergeant; the sergeant referred to the lieutenant, and the lieutenant referred to his captain, who in turn stated that he was only keeping up the custom of his predecessor, who left this as one of the military duties of the place. Further inquiry at the war department showed that this custom had prevailed for *seventy years*, and that it originated on this wise: Originally, some soldiers' mattresses belonging to the town garrison were stored in this building. The door happening to need painting, a sentinel was detailed to do guard duty, to keep the green paint from being injured. Before it was dry, the officer of the guard was hastily called elsewhere, without time to change or call in the sentry. His successor finding the guard there, kept him in his place, supposing there was good reason for doing so, and *his* successors practised the same thing up to the time of the inspector's visit.—About as good reason this, as can be given for many rites, ceremonies, and practices now in vogue.

Power Cider Mills—Borden's Concentrated Apple Juice.

The apple crop of the United States if properly economized, might be a source of great wealth. Well picked and packed winter apples bring most remunerative prices, but the care and patience required to bring them to market in prime order will not be taken by many people. Dried apples sell well, but much labor is spent upon them—so much, that the market is never overstocked. Cider and vinegar are also products of the orchard which command a ready sale. Still we see yearly, what must amount to hundreds or even thousands of bushels of apples that might make cider, rotting under the trees, and who can calculate the amount in the whole country. One reason why more cider is not made, is hinted at in the following letter from a correspondent of Essex Co., Mass.:

POWER CIDER MILLS.

"None will deny that the old creaking cider mill, with its single rickety press, ought to be superseded, but the tedious slow work can not be lessened by the multiplication of slower and more tedious hand-mills. Water or steam is a better motive power. In this vicinity two mills driven by water, have been in successful operation for several years, and last season another was erected. They are rapidly coming into favor; no better proof of their success need be given, than that farmers go a long distance, passing the old mills to patronize these. Not only is time saved, but more juice is obtained per bushel, and the cider is cleaner and better than where every man makes his own, at the old fashioned mill. What required two men most of three days, can be done by one in a few hours at these mills, with a little more expense. No new process is pursued, only the powerful agent, water, quickly and easily does the grinding and pressing. The machine for the grinding is of the grater form, and each mill has two large hydraulic presses, of about one hundred bushels capacity. All the work is done by the owner or manager, as in grist mills, and a fee of of 25 to 33 cents is charged per barrel, which is paid in apples, cider, or cash. Nine bushels are allowed per barrel of 32 gallons. Farmers have only to back up their load of apples at one door, where they are measured, leave their barrels at another, and in a few hours they are gauged and filled, or if they are willing to take the cider made from the apples of others, the barrels are filled at once. In the busiest part of the season, lots in less quantity than a full press are not made separately, unless by special agreement and extra charge, for it is economy

to keep the mill running with full pressings. Here is a good chauce for meu with moderate capital to benefit themselves aud to coufer a favor upon their neighbors. N. S. T."

These statements in regard to the practical working of cider mills driven by steam or water power, with additional mechanical contrivances for more finely comminutiug the pulp aud giving the cheese a harder pressure, indicate that it is not too much to anticipate a considerable increase in the amount of cider and cider vinegar annually produced. That there is a great waste of time, labor, aud cider too, wheu the common methods are followed, no one can doubt. As we write, a farmer from Maryland states to us, that for some time he has practiscd grinding over and repressing the pulp of old cider cheeses with most profitable results. This could not be done, we think, with the grated pomace from the hydraulic presses mentioned by 'N. S. T.'

CONDENSED APPLE JUICE.

That ingenious man, hard thinker, and indefatigable worker, Gail Borden of Wassaic, N. Y., whose system of condensing milk away from contact with air, and at a temperature below that of boiling water, has been the means of supplying our army in the field, and many of the dwellers in this city of swill milk notoriety, with sweet and excellent milk at all seasons, has invented a similar process for condensing cider, the results of which are most gratifying. The apple juice, or sweet cider, before it has undergone any fermentation, is boiled down *in vacuo*, being reduced to one seventh of its original bulk, without losing its flavor, or any good quality. It has no taste of boiled cider, but is a beautiful amber colored jelly, pleasant to eat in its simple state, particularly as a tart sauce, with poultry, game, or other meats. It makes excellent pies and tarts, and may in fact be applied to all those uses for which dried apples, or boiled cider are employed, and is much superior. Besides this, by the addition of six times its bulk of water, (the quantity originally withdrawn,) we may have sweet cider again, which will undergo fermentation, as it would have done at first, but more slowly, aud like other cider go through all the changes, until it ultimately becomes hard cider. This apple jelly is not affected by exposure to the air, whether dry or moist, and neither sours, nor molds, nor dries, nor absorbs water. Such an article of course bears transportation in barrels or other vessels to any part of the world.

Here then we have a new article of commerce for which there must doubtless be a growing demand, and between the steam cider mills and the Borden's patent condensing process there should be few apples wasted, if proper enterprise is shown in putting up mills aud factories. The subject is commended as promising to pay well to men of enterprise in the various fruit growing sections of the country.—This condensed apple juice sells at 30 cents per pound this year. The cider making and condeusing commence as soon as apples ripen, aud continue into the winter. Mr. Borden's establishment worked up more than 18,000 bushels of apples last autumu. Sweet apples yield a delicious fruity syrup, better for some purposes than the sour apple jelly.

PERUVIAN COTTON.—Late accounts from Peru state that great attention is being paid to the culture of cotton in that country, and the yield bids fair to be large, and one that can be greatly increased from year to year. There was exported through the Peruvian ports of the Pacific, last year, 1,680,000 pounds, and of the last crop it is estimated that over 4,000,000 pounds will be exported, which amount is expected to be doubled the present year. It is predicted that the crop of 1864 that will reach Europe, will amount at least to 6,000,000 lbs. Small quantities are finding their way down the river Amazon; but freight by this route is yet too high to allow the exportation of large quantities.

To Wagon Makers—A Family Carriage Wanted.

A subscriber writes: "Believing that there are *many* others situated like myself, please allow me to state my case through the widely circulated *American Agriculturist*, hoping thereby to meet the eye of some wagon or carriage maker, who can supply the desideratum. I keep only one 'family horse,' a strong one, yet I often desire to go to church (2 miles) and elsewhere, with wife and four children, requiring three double seats, or two wide ones. In stormy weather we need curtains down, and a glass door or lookout at the sides. The common rockaway, or carry-all answers, but it is too high to get into by small children, and especially by a feeble woman, while the box prevents the fore wheels turning short. A desirable vehicle would be one at a moderate, or not large price, built after the hack style, with *low middle*, the fore wheels turning under, and the door opening down to the step; the *sides high enough clear to the dashboard* to keep mud from flying in, and a small child on the front seat from falling out; the back two seats to be far enough apart to allow ladies to sit facing each other *with room enough for their crinoline*; a movable hood in front, and a rain cloth rolled upon the dash board. I fear the difficulty will be to get in all these requisites without making the carriage body so long as to appear too large and clumsy for one horse, even if it be light enough to be drawn by one. I have not seen a family carriage of this kind. Can one be built?" [We have looked in vain through some of the largest carriage establishments of this city to find a vehicle answering the above description in full. Perhaps some of our carriage-making readers can contrive one; or perhaps friend E. M. Stratton, Ed. of "Coach Makers' Magazine" at 82 East 14th Street of this city, can help in the matter.—ED.]

Convention of Plow-Makers.

The manufacturers of plows in Illinois recently met in convention at Chicago to consider the propriety of uniformly advancing their scales of prices. A large number of firms from different parts of the State were represented. It was stated that since October last, iron had advanced 1 cent and steel 1½ cents per pound, and other materials at about the same rate; and that it costs $1 more each to make the plows most used, than was required four months since. The following changes were unanimously agreed upon. Plows heretofore sold at from $11 to $16, to be advanced $1.50; those under or over the above prices, to be proportionately advanced as near as may be by the judgment of the makers. Single shovel plows to be $6; double shovel $7; treble shovel $7.50. For rolling coulters with clasp, 14 inch, $6; 12 inch, $5. For patent cultivators, $45. The discount to the trade from the list of wholesale prices, was fixed at 20 per cent. A committee was appointed to classify the various styles of plows, with a view to establish uniform descriptions and numbers. Provision was made for further rise in price by resolving to add 50 cents per plow for an advance in iron not exceeding ½ cent per pound, and $1 per plow, if the increase in iron be more than that figure. It was also resolved to form a permanent organization to be called the "Plow Makers' Society" to hold meetings at least once a year, the next gathering to be at Chicago, June 29th, 1864.

Such an association may be made of great value both to those engaged in it, and to purchasers of their wares. The discussion of topics connected with their business, such as the best forms of plows, and other implements, arrangements for facilitating purchases and similar matters will always be of general interest. It may be thought by some that this combination looks to monopoly, and from the experience of the public with such associations of manufacturers, the apprehension is not without grounds. We trust however that wiser counsels will prevail both for the sake of the purchasers and the makers. Although combinations may for a time control the market, in the end they provoke ruinous competition, during which the public gets back their due; though the individuals wrouged at first may not receive the benefit.

Ohio Wool Growers' Convention.

A meeting of the Wool Growers of Ohio, was in progress just as our last number was going to press. Col. Needham of Vermont, and Hon. H. S. Randall of New-York, gave addresses. The following resolutions were adopted:

Resolved, That we petition the Congress of the United States to so amend the Internal Revenue laws as to impose a tax upon dogs, with a view of protecting sheep from them.

Resolved, That washing is in itself injurious to the sheep, is of no advantage to the wool, and is only made necessary by the present custom of wool buyers, and it is highly desirable that a reformation be effected.

Resolved, That the existing tariff on foreign wool is inadequate to the protection of American wool growers, who should be placed upon the same footing as American Manufacturers.

Resolved, That a committee of three be appointed to prepare a bill to be submitted to the Legislature for promoting the interests of wool growers and for protection against dogs, and that said committee memorialize the General Assembly in favor of passing said bill.

The following gentlemen were elected officers of the Association: *President*—R. M. Montgomery, Youngstown, Mahoming Co.; *Vice President*—John Gurney, Alexandria, Licking Co.; *Secretary*—J. Park Alexander, Akron, Summit Co.; *Treasurer*—S. D. Harris, Cleveland. *Directors*—S. S. Matthews, Outville, Licking Co.; E. Messenger, Marion, Marion Co., and John Sears, Litchfield, Medina Co.

KANSAS AGRICULTURAL COLLEGE. — This young State is laying a good foundation for future prosperity. The 90,000 acres received by act of Congress for establishing an Agricultural College, have been bestowed upon what was previously known as Bluemont College. This institution was formerly under the patronage of the Methodist Church, but last winter was given to the State, and the Legislature made it the State Agricultural College. It is situated in the town of Manhattan, near the junction of the Kansas and Big Blue rivers, and on the line of the great Pacific Railroad.

HOW CATTLE EXERT THEIR WHOLE STRENGTH.—*Sketched and engraved for the American Agriculturist.*

The economy of the ox-team is recognized where heavy, steady work is to be done, where rapidity gives place to vigorous hauling and patience in toiling through sloughs or over rough and rocky ground. The strength of the ox is so great that we are in the habit of underestimating it, and though we often overtax his endurance, and cruelly try his patience, we rarely, if ever, allow him to exercise his full power. The spirited engraving, above, was drawn expressly with a view of exhibiting the position in which a pair of steers naturally lay out their full strength. He who has not seen the rival lords of neighboring herds meet and dispute the right to favorite pasture grounds, (a sight rarely seen in the older parts of the country,) has lost one of the most magnificent exhibitions of power, activity and well-wielded strength, steadiness, perseverance and nerve, that can be witnessed. There is something really terrible in the way they hurl their ponderous bodies against each other, in the clash of their horns, and in the solid thud caused by the meeting of their foreheads. With locked horns and heads held low they crowd each other, the ground yields and the close turf tears beneath their strong hoofs. Every muscle of the body is tense, every sinew taut, and every energy alive. The whole power of the animal is concentrated in one point, and that is his forehead. If we examine the skeleton and muscles of an ox, the manner in which his limbs are placed with reference to his trunk, and how his neck is strengthened by massive muscles, and see how the backbone is calculated to communicate the power of the animal through its entire length, we must all be convinced that nature intended he should exercise his power through his neck and by his head. When we saddle his neck, and neutralize the force of its muscles, and give his head nothing to do, and contract his throat, and force him to draw with the weight of the load, in addition to nearly the whole strain of the draft bearing upon the tops of the upward projecting processes of the spine, we subject the animal to cruel pain, and unphilosophically force him to apply his strength in a most unnatural manner. Now and then we find a sort of bull-necked ox having a broad mass of muscle just where the yoke rests, and such an animal is always famous as a willing drawer. Then too, if we take our steers young enough we may form a callus for the yoke to bear upon, and thus train oxen of great toughness. The simple fact that a well broken team will back as heavy a load as they will draw, shows that there must be some radical fault in their way of drawing. Among other people than those of British descent, we have had occasion repeatedly to notice various forms of head gear. Several are in

Fig. 2.—PLOWING WITH HEAD YOKE.

use in Germany, others still are found in France and Italy. The Mexicans and Texans use head-yokes, as do also the French creoles of Louisiana. We give an engraving representing a pair of cattle with head-yokes as if plowing; chain-traces supported by a strap across the back are attached to the plow in the usual way. Their heads are connected by a rope. The cut of the yoke explains itself almost—a strong piece of oak bent a little like a gambrel, padded on the inside of the curve, furnished with straps by which it is attached to the horns, and hooks or eyes on the ends for the traces. Another common

Fig. 3.—FORM OF HEAD YOKE.

method is to strap one end of a straight bar to the front of each ox, and have them draw by the wagon pole, or by a single chain. Another way is to put the bar behind the horns, and attach it by means of straps and pads bearing upon the foreheads. We have little doubt that the available power of the ox might be increased nearly or quite one-third by the adoption of a more philosophical method of yoking.

YEANING EWES.—Stables supplied with well trodden litter are better than sheds. There should be so few ewes that there will be no crowding. If a ewe is in trouble help her. If the lamb is weak, and the dam restless, lay her down carefully and encourage the lamb to suck. If the milk has not come, give the lamb its first few meals from other ewes that can spare the milk. Never give a young lamb the milk of a farrow cow. Should lambs be found chilled and stupid from cold, they may given a bath as hot as can be borne by the hand without pain, and rubbed *dry* afterward. A few drops of spirits (rum or gin) mixed with milk, often help much to revive a chilled lamb. The present and prospective high prices of sheep, make it important to look out well for the next crop of lambs. A few minutes' care may save a lamb.

Plain Directions for Grafting.

The process of whip-grafting small stocks was illustrated in the January *Agriculturist*, but the farmer being, as a general thing, more interested in grafting large trees, we give an account of the method. All over the country there are orchards of "natural fruit," or of trees grafted with undesirable sorts, which the owners would gladly change to better kinds if they could only afford the expense. This is very little, if the owner does it himself, as any one can who can use a jack-knife. Grafting is simply taking a twig from one tree, and planting it in the limb of another, the conditions of success being that the *inner bark* of the two shall be in perfect contact, and that the point where they join shall be so covered that neither the cion nor stock shall become dry.

Materials.—The cions should be cut before the buds begin to swell, and be preserved in damp earth in a cool place. They may be buried in the cellar or out of doors. If taken late in winter or early in spring, the upper portion of the cuttings should be rejected, as this is frequently winter-killed, or has its vitality impaired by the severe cold. Exercise care in the selection of

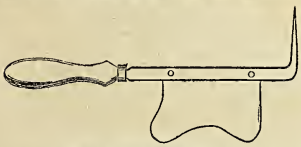


Fig. 1.—GRAFTING KNIFE.

varieties, and keep the cions properly labelled after they are cut. Prepare a supply of waxed cloth according to the directions given in January, upon page 20. Some use the grafting wax without the aid of cloth. To prepare this, the composition directed for the cloth is thoroughly melted, poured into water, and when sufficiently cool, is taken out and worked in the hands, in the same manner as candy, until it is of a uniform character throughout. The hands may be rubbed with tallow to prevent the wax from sticking to them. Grafting clay, made by working together clay or strong loam and cow dung, is sometimes used with success.

Fig. 2.

Tools.—A fine saw with the teeth set rather wide will be needed for taking off the limbs. For splitting the limbs in cleft-grafting, a chisel, stout knife, or a grafting knife may be used. Fig. 1, shows the common form of grafting knife, consisting of a steel blade fastened to an iron back, which is turned up at the end to furnish a wedge with which to open the cleft. Where this is not used, a wedge of hard wood will be needed. A wooden mallet will be required and also a sharp knife to prepare the cions. In crown-grafting an iron bodkin, (fig. 2,) is used to lift the bark. This is in the shape of a half rounded wedge, and may be made of a half round file, heating and slowly cooling to soften it, and then grinding it smooth. A substitute may be readily made from hard wood.

Practical Operations.—The renewal of a tree should not be done all at once, but extend through three, or at least two years, beginning with the upper part. In renewing the head, regard should be had to the future form of the tree, recollecting that a small cion will ultimately become a limb, and that an overcrowded as well as a too thin head, is to be avoided. The limbs are usually sawn so as to leave only about six inches in length for the reception of the grafts. In sawing, care should be taken that the weight of the branch does not break it off before it is completely severed, as this would strip away the bark from the lower side and leave an ugly wound. The limb should be held firmly until it is completely cut through, and it is safest to cut a ring through the bark with the knife at the place where the saw-cut is to be made. The rough surface left by the saw is to be smoothed by paring with the knife or drawing-knife, and a split to be made for the reception of the grafts. Place the chisel, knife, or grafting tool across the end of the but, and with a few moderate blows of the mallet split it to the extent of an inch or two. A cion is prepared by cutting its lower part to the shape of a long wedge (fig. 3,) taking care to have a bud (*A*) at the base of the wedge. It is customary to make the edge of the wedge opposite to this bud slightly thinner than the other. The cleft being sprung open by means of a wooden wedge, or the turned up portion of the grafting tool, the cion is inserted with the bud *A* outward, taking care that its inner bark and that of the stock come in contact. In stocks an inch or more in diameter, two cions are usually placed, one of which is ultimately cut away. When the opening wedge is withdrawn, the cions are held quite firmly. The whole wounded portion must then be covered with waxed cloth. Tear off a strip long enough to go two or three times around the limb, and wide enough to cover the split and to double over and cover the end of the but. The strip is to be wrapped closely around and fitted nicely about the cions so as to form an air and water-tight covering over all the wounded portions (fig. 5). It takes longer to describe than it does to perform the operation, and a little practice on a few limbs taken off for the purpose, will give the needed facility in working. Those who make a business of grafting, usually prepare the cions first, and hold them in the mouth while splitting the stock. The waxed or grafting cloth is the easiest of application, but some prefer to use the wax. This is prepared as directed above, in convenient sized rolls, and in use, a small portion is pulled off and smeared over the cut portions by means of the ball of the thumb. A piece o tallow should be used to grease the hands, if either the wax or cloth are disposed to stick to them. When small stocks are cleft-grafted, only one cion is used and about half the stock is cut away in a sloping manner as shown in fig. 6. A cut of this kind heals over more readily than one made straight across.

Fig. 3.—CION.

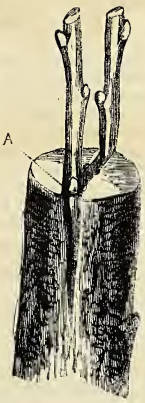


Fig. 4.—CION INSERTED.

Fig. 5.—BANDAGE.

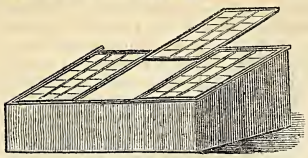
Fig. 6.—SMALL STOCK.

Crown Grafting.—In cleft-grafting a split is left which never fills up; to obviate this, many practice what is called *crown-grafting*. The stock is prepared as already directed but not split. The cion instead of being cut as in cleft-grafting is shaved down on one side only to form a half round wedge with a shoulder, like fig. 7, with a bud at *A* as before. To insert the cion, the bodkin (fig. 2), is forced between the bark and wood of the stock so as to lift the bark (no matter if it cracks) and on being withdrawn the cion is pressed into the opening thus made, its cut portion being toward the center of the stock (fig. 8.) Two or three cions may be introduced, according to the size of the stock, then cover the wounded portions with cloth or wax as before. Crown grafting is equally successful with the other, and is practised exclusively by some. Others object to it for the reason that the grafts are more likely to blow out. Grafting should be done just as the trees are beginning to start. It is not well to do it too early, as the cions are exposed for a long time to the cold winds, and are apt to die. The grafts should be looked to after they are set, to see that the binding or the wax covers do not become displaced.

Fig. 7.—CION FOR CROWN-GRAFTING.

Fig. 8. CROWN GRAFTED.

CORN HUSK MATTRESSES as usually made, require the husks to be slit up fine with a hatchel, which is a rather slow operation. A subscriber writes to the *American Agriculturist* that a much quicker method is to run the material through a threshing machine, which will knock off all the hard parts. These will be separated in passing over the "shaker," leaving the torn husks to fall off clean. They will need to be run through twice or even thrice, and will come out nice and soft, not equal to hair of course, yet a very excellent material for beds.



The Family Garden Hot-Bed.

But few except professional gardeners have hot-beds, and doubtless a great majority of the readers of the *Agriculturist* start all their vegetables in the open ground, thinking that a hot-bed involves too much trouble and expense. This is much less than is generally supposed, while by the use of one, the choice products of the garden may be had several weeks earlier than without it, and the season of enjoying them may thus be prolonged. If it is not worth some time and trouble to secure this, then we advise our readers to let the hot-bed alone; but if they set the same estimate upon garden vegetables that we do, they will have some contrivance to start them early. A hot-bed consists of a heap of fermenting manure or other materials as a source of heat, over this a few inches of earth to receive the seeds, and the whole covered by a glazed box to retain the heat, and at the same time to let in light. We have seen a rude box covered with old window sash made to serve a good purpose, and any one with a little mechanical skill can get up some contrivance which will answer the conditions mentioned above. When sash are to be made or bought, those 5 or 6 feet long, and wide enough to hold 4 rows of 7x9, or 5 rows of 6x8 glass, will be found to be of convenient size. The bars for holding the glass run lengthwise only, and the ends of the panes lap about a fourth of an inch. The glass is fastened in with points and putty in the usual manner, and the frame well painted. A ¾ inch iron rod put across the sash at the middle, and secured by nuts, will add much to its strength. The *frame* should be of stout plank, about one foot high in front, and two feet high at the rear, with end pieces of proper slope; crossbars should run from the front to the rear of the frame for the sash to slide upon, and the upper edges of the front and rear be bevelled to make a close fit. The size of the frame will of course depend upon the length and number of sashes to be used. The common heating material is manure from the horse stable; if an equal bulk of forest leaves can be mixed with it, all the better. The manure is placed in a heap near where it will be needed, and turned over at intervals of a few days until it begins to heat. The place for the hot-bed should be a dry one, and selected with a view to easy access, in order that it may receive the proper attention without too much trouble. The lower edge, or front of the bed, should face the south. Drive down stakes to mark the corners of a space 18 inches larger each way than the frame, and then spread the manure over, and build it up by layers so as to distribute it evenly and have all the parts equally compact. In putting on the manure, all hard lumps should be beaten out, and the pile occasionally beaten with the back of the fork to make it tolerably compact. Care will be required to keep the corners filled out, and the sides square. Finish off by shoveling up the fine manure and spreading it evenly over the top. The pile when finished should be at least 2 feet high, and it is often made 2½ or 3 feet high. There need be no fear of wasting the manure, for after it has served its purpose in the hot-bed, it is in the best possible condition for any farm or garden crop. Place the frame upon the manure and put into it rich mould to the depth of six inches, and rake it off smooth. Put on the sash and leave the bed a few days for the heat to rise. At first the heat will be too violent, and the sash will need to be raised during the day to let the excess escape. When the temperature of the earth moderates to 60° or 70°, the seeds may be sown in rows running across the bed. Peppers, tomatoes and egg plants should be under the same sash, as they are more tender than cabbages, lettuce, etc., and require more care in airing. For cucumbers, melons, early squashes, and Lima beans, get some thick sod and cut it into pieces about 3 inches square. These are put bottom side up and a few seeds put in each piece. When the transplanting season arrives, the plants may be removed without disturbing the roots, as the sod is set in the ground with the plants. Shade the glass until the plants are well up. To prevent injury from the heat of the sun, the bed should be ventilated during mid-day, by lifting the rear end of the sash and putting a piece of board cut like a long wedge under it. The plants should have air whenever it can be given without cooling the bed too much. Close the sashes before the air begins to cool at night, and if the nights are cold, cover with shutters or mats. Give water as needed, first bringing it to the temperature of the bed by adding hot water. Remove weeds as they appear, and keep the earth between the rows from getting hard, by occasionally stirring with a knife or pointed stick. The time for starting the bed will depend upon the climate; as a general rule, it is about six weeks before the plants can be safely put into the open ground.

Notes and Queries on Grape Culture.

Many of the queries recently received have already been anticipated by articles published in the four or five preceding numbers, and others will be answered in the Calendar of Operations at the proper season. Persons about to plant this spring, ask about varieties: space will not allow the repetition of the notes given on pages 325 and 338, of the *Agriculturist* of November last. We can briefly say, that while we admit that the Delaware, under proper cultivation, gives the best fruit of any of the generally tested vines, we consider that the Concord, on account of its vigorous growth, abundant bearing, and the size and beauty of its fruit, possesses a greater number of elements of popularity than any other grape now before the public. Several correspondents are at a loss to reconcile the opinion we have given of the Concord, with the low estimate placed upon it by Dr. C. W. Grant, in his catalogue. A gentleman in Iowa writes: "...Now if Dr. Grant is right, every one else is wrong about the Concord. Will you please inform us about it?" As an individual opinion, drawn from experience in his own locality, Dr. Grant's statements in regard to varieties are entitled to a certain amount of weight. With respect to the Concord, we have Warder, Husmann and Knox, and others, perhaps quite as well known to the horticultural world as Dr. Grant, who really believe that it is the best grape for general cultivation, and as this agrees with our own views, we say so without caring to reconcile the difference between Dr. Grant, and "every one else." The Indiana Pomological Society at a recent meeting, passed a vote saying: "While we regard the Delaware and Catawba as better in quality, we recommend the Concord as the best single variety for the million." Our western friends are enthusiastic over the Concord, and it seems to be even more esteemed at the West than it is at the East.

At the 10th annual meeting of the Fruit Growers' Society of Western New York, the president, S. H. Ainsworth, Esq., devoted his annual address to the culture of the Grape. In speaking of the profit of the different varieties, he says: "The Concord, from my observation and experience, will produce fully as many, if not more pounds to the acre, than the Isabella, and commands at present a higher price in market. My crop last fall yielded at the rate of 11,200 pounds to the acre, and sold at home at 10 cents a pound. At this rate, the crop from an acre would be worth $1,120,—say it cost $60 an acre to grow and pick them. This would leave a net profit of $1,060 an acre. This variety was sold last fall at retail in our large cities as high as three shillings a pound".....J. W. Cone, of Litchfield Co., Conn., says that the Adirondac with him is a thrifty grower, and very hardy, and that his vines never lost a leaf until the frost killed them.

Plant Quinces.

A correspondent writes to the *American Agriculturist* in favor of the quince, a fruit which is very valuable, but which is generally neglected. It is usually stuck in some out of the way corner, and the fruit is taken without our giving any return in the way of care. Quinces always bring a high price in the market, and the supply is never equal to the demand. A tree which is so profitable when neglected, will repay care in cultivation, and we advise our readers not only to plant quinces, but to take care of them afterward. The Orange or Apple quince is one of the best known varieties, and is greatly superior to the Pear quince. Rea's Seedling is a comparatively new variety derived from the Orange. It is said to be a vigorous grower and to bear well, giving fruit of a superior quality. The Portugal is another highly esteemed variety.—The quince may be propagated by layers or cuttings as described on page 49 (February). Cuttings give the best plants and can be readily raised if the directions referred to are followed. Though the quince will succeed tolerably in almost any soil not too dry or too stiff, it does much better in a light, rich, and rather moist one, and in good cultivation it should have a dressing of manure every fall. Generally the tree is left to grow without any training, and it makes an unsightly bush, with long twisted branches. With a little care it may be grown as a standard with a trunk of two or three feet high. In order to get a good head the young tree is planted where it is to stand and allowed to grow a year. The next spring it is cut down to within 18 inches of the ground, and the strongest of several shoots which push, is selected for the trunk, and the others rubbed off. This shoot is kept tied to a stake and the second spring it is shortened somewhat, and the side shoots cut back to a few inches. By treating the stem in this way, it will in two or three years get strong enough to be self-supporting, when the upper branches may be allowed to grow and form a head; all others are to be removed, and suckers and side shoots cut away whenever they appear. After the head is well established, but little pruning is required, except to remove cross shoots and weak ones. The trees may be set 10 or 12 feet apart

each way. It is the practice with some to grow them in a hedge and allow them to take the bush form, but they do not fruit as well as when they have been trained to a single stem.

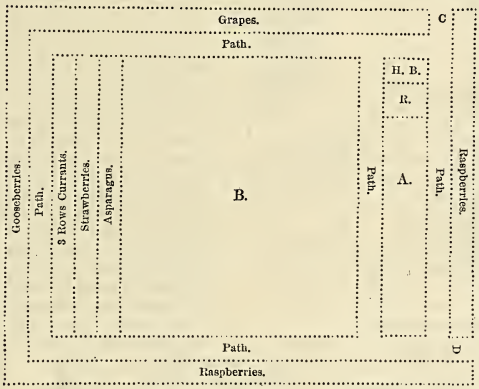
Valuable Experience in Surface Manuring Fruit Trees.

The following extract from a communication to the *American Agriculturist* by Dr. H. G. Davis of N. Y. City, is published with the remark that, while we approve of the practice, we do not agree with the theory. To give our objections would require more space than can be allowed this month. Theory aside, we accept it as evidence of the benefits of surface manuring, so often advocated in these pages.

"Some years since I purchased a Country Seat, the grounds of which, ten years previously, had been prepared with great care and set with fruit and ornamental trees. The ground was trenched to the depth of two feet and liberally enriched. Among the fruit trees were seven dozen and a half of standard pear trees. At the time I came in possession, these trees had not made any wood for five or six years, and but two or three had borne fruit. Among them were Bartletts and a Brown Beurre, which would set full of fruit, but when they were about half size, the fruit would begin to dry and crack upon the south side, and not one would perfect itself. Other trees were dying at their extremities, as of old age. I had the earth removed down to the roots and a rich compost applied; the next year the foliage appeared of a rather deeper green and the fruit of the Brown Beurre mentioned was improved somewhat, particularly that portion not exposed to the sun, but none of the trees made any new wood. In reasoning upon the mode of growth of a tree, I came to the conclusion that the first sap a tree takes up in the spring, contains the materials from which the wood and fruit of that season are to be manufactured. In conformity with this opinion I directed my gardener to spread stable manure under my pear trees as far out as the branches extended. This was done during a rain when the ground was thawing, so as to admit the water to penetrate to the roots. The manure remained upon the ground until the grass began to look green, when it was removed and used in the garden. It will be observed that the manure was applied just at the time the tree began to take up its sap, so that the leaching from it could be appropriated by the roots at the time. This was in strict accordance with the views I had formed as to the time a tree takes up all the nourishment it will convert into wood or fruit that season.—Now for the result of this test of my theory. The tree nearest dead, some of its branches being entirely so, and the whole having the look of a stunted Black Jack, bore full of large elegant fruit, and it also threw out new shoots twenty inches long, and three eighths thick at their extremity. The Brown Beurre was loaded with fruit unusually large and perfect. Two grafts, put into a branch an inch and a half in diameter, grew seven feet each. The top of another tree being removed the next spring, for the purpose of inserting grafts, the main shoots were found to have grown five feet, others four, and none less than three, doing this while at the same time it had been full of fruit. The fruit of all these trees was improved not only in size but in flavor, in as great a degree as the growth of the wood was increased. These results were fully corroborated another season by experiments made on different trees by another gentleman."

A New Vegetable—The Tuberous Chervil.

This vegetable, which has been noticed in the foreign journals, and has been tried by a few in this country, has at length found its way into the catalogues, and the seed can now be obtained by those who are fond of testing novelties. The botanical name of the plant is *Chærophyllum tuberosum*, and it belongs to the same family as the parsnip and carrot. By some it is called the Parsnip Chervil, from the resemblance of its root to a small short parsnip. It is a biennial, the seeds being sown in August and September, and the roots ripened in the following July. The general mode of culture is that given to carrots. The root when cooked, has a flavor somewhat like that of a chestnut.



Plan for Laying out a Garden.

Letters frequently come to the *Agriculturist* asking for plans for laying out the family garden. As a vegetable garden is not for ornament, the plan should be the simplest possible, and made with a view to facilitate working. The accompanying one by Mr. R. Pillsbury of Johnson county, Iowa., has some good features: The garden contains an acre, and in representiug it on so small a scale the paths and borders are necessarily made too large in proportion. The borders are occupied by small fruits as indicated in the plan. A gate at C opens near the house, and another at D, near the barn, is wide enough to admit a wagon. "A is a bed 16 feet wide, running from the house entrance to the foot of the garden; this is devoted to radishes, onions, beets, &c., which are all planted in rows across the bed. At the upper end of this bed, is my hot bed (H. B.), near the house, as it requires frequent visits; then comes a rhubarb patch (R), 5 hills square, which affords an abundance; below the rhubarb this long bed has no subdivisions, one article follows another, without loss of space. For our use—and our family is not small—we need about 25 rows of beets, same of onions, 10 of parsnips, 5 of carrots, and three sowings of radishes, 8 or 10 days apart, 8 rows at each sowing. The parsnips should be next the rhubarb, to be out of the way in the spring or fall, if you wish to plow or spade the bed; this bed affords room for any new thing, and for early squashes or cucumbers. I only use about half the bed for the first mentioned articles; others might need the whole, or more, in which case a similar one might be made adjoining it. Corn, early potatoes, sweet potatoes, tomatoes, cabbages, snap beans, cucumbers, melons, occupy the next space (B); all these are planted in rows running through from North to South and are worked by horse power; the paths afford turning places. I find 12 rows of corn at two plantings, and one each of tomatoes, snap beans, and cucumbers, are sufficient for us. I place all the permanent things together, strawberries, asparagus, etc., following the general idea throughout of tending with a horse everything I can."

New Flowers Offered this Spring.

Each year the seedsmen's catalogues present a list of novelties in the way of flowers, accompanied by attractive descriptions, and giving the price of the seeds, which is usually a rather large figure. Some of the new plants thus yearly brought forward, prove to be really valuable and retain a place in the estimation of the public, while many, whose only merit is their novelty, are soon lost sight of. For the benefit of those readers of the *American Agriculturist* who wish to keep up with the new introductions, we give a list of a few of the latest: *Callirrhoe verticillata.* This has larger flowers than *C. pedata.* It is highly spoken of in England. *Convolvulus aureus superbus;* a yellow flowered Morning-glory, a novelty indeed.—*Convolvulus Mauritanicus;* this is not exactly new, but it is not very common; it is smaller than *Convolvulus major,* with very bright flowers, and will doubtless be good for hanging baskets.—*Clarkia pulcherrima integripetala;* said to be the finest of the Clarkias.—*Abronia fragrans.* This is a perennial from the Rocky Mountains. We have admired it in its wild state, and think it will prove valuable in cultivation.—*Helipterum Sanfordi;* a new "everlasting" flower, with clusters of golden yellow.—*Lupinus albo-coccineus;* is said by the English florists to be the finest annual Lupin.—*Mimulus tigridioides,* a highly praised new bedding plant.—*Rhodanthe atrosanguinea* and *maculata-alba;* dark purple, and pure white varieties of *R. Manglesii,* one of the prettiest of the "everlasting" flowers. *Scabiosa candidissima;* is a white variety of the well-known purple Sweet Scabious. *Vicia Gerardi;* is described as a new climbing annual, with bunches of flowers like a Wistaria, but smaller.

The Fruit Crop at the West.

Many correspondents of the *American Agriculturist* at the West are apprehensive that many of their fruit trees, especially peaches were destroyed by the severe cold, on Jan. 1st, 2d, and 3d. The fruit buds for the coming season are probably considerably injured, perhaps enough to result in scarcity, but it is yet too early to predict a general failure even in this respect. Trees will bear very intense cold, but sudden changes from mild to severe weather and the contrary are most likely to prove injurious.

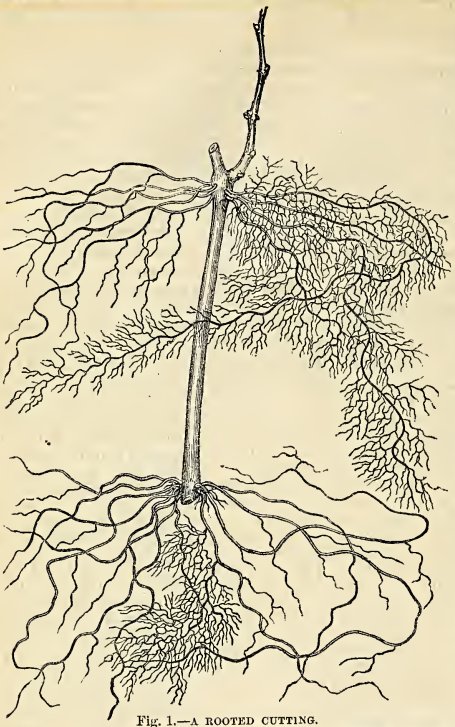


Fig. 1.—A ROOTED CUTTING.

Growing Grapes from Cuttings.

While the Delaware and some other varieties of grapes can not be successfully grown from cuttings in the open air, the Concord, Hartford Prolific, and many others, root with ease, and may readily be multiplied in this way. It is customary to stick out the wood taken off in pruning, in any convenient place, and if any plants result, it is so much clear gain to the cultivator. If proper care be taken with cuttings, a large proportion of them will make plants. The bed for the cuttings should be of good, light soil, with plenty of old manure forked in to the depth of at least a foot. It is best to prepare the bed in autumn, but if that has not been done, let it be made ready as early as possible in spring. The cuttings should be of strong, well-ripened wood, of last year's growth. It is presumed that this was taken off at the fall pruning, and preserved by burying. If the wood was not made into proper lengths when taken off, it can be done now by dividing it up into pieces about six inches long. The wood of some sorts will make cuttings of two buds each, while shorter jointed wood will have three or four buds upon a cutting of this length. Fig. 2 shows the cutting as prepared for planting: the wood is pared off close to the lower bud, while it is cut off slanting at about an inch above the upper bud. As soon as the ground is in condition in spring, the bed should be forked over and raked level. Then stretch a line across it, and by means of a spade open a trench about an inch deeper than the length of the cuttings. By putting the back of the spade to the line, the trench may be made with one side nearly perpendicular. Set the cuttings about four inches apart, fill in about two inches of earth and, press it firmly around the lower part of the cuttings and then fill up with earth, so as to just cover the upper bud. The dotted line in fig. 2, shows where the earth should come. This will leave a shallow depression the whole length of the rows, which rows may be two feet apart. When the shoot, which will of course start from the upper bud, has made a growth of four or five inches, the earth may be drawn in to completely fill the trench, this will cover the bud to the depth of an inch or more. The bed should be covered with two inches of litter to serve as a mulch. It is not unusual to have a growth of four or six feet the first season. The shoots should be kept tied up to stakes, as the wood will grow and ripen much better than when left to lie upon the ground. Some cultivators plant the cuttings in the fall and cover them with straw which is removed in spring, leaving enough for a mulch. Some varieties succeed when treated in this way, which will not if planted in spring. In fall planting in particular, a dry spot, or one well drained should be selected for the bed. In autumn the rooted cuttings are to be taken up, with care not to tear off the roots, and they will present the appearance of fig. 1. In the figure the shoot is represented small in proportion, and to avoid confusion, the small fibres which cover all the roots are, shown upon a part only. The tops are to be cut back to three buds, and the roots shortened about one third, after which the plants may be set a foot apart in nursery rows, or be carefully heeled in. Some prefer to remove the lower portion of the cutting at transplanting. This may be done by dividing it just below the upper tier of roots, when it will be exactly in the condition of a vine started from a single eye. Those vines which can not be started from cuttings in the open ground, are grown from single eyes, set in pots of sand in a propagating house, where they can have bottom heat, or the pots may be placed in a hot-bed. For a description see Fullers' forthcoming book on grape culture, from which these engravings are taken.

Fig. 2.—CUTTING FOR PLANTING.

What is Inside of a Plant.

In the last *Agriculturist* (p. 48) it was stated that all plants are composed of an aggregation of minute closed cavities or cells, and figures of the simplest forms of these were shown, as they exist in the soft portions of plants, and make up what is called cellular tissue. It was also stated that these cells are so small that it requires the aid of a microscope to enable us to see them. Their size varies in different plants, but generally they are from $\frac{1}{350}$ to $\frac{1}{300}$ of an inch in diameter, requiring 27 to 125 *millions* of them to make up the bulk of a cubic inch. The very young plant as it starts from the seed, is mainly made up of the kind of cells described; but as it grows, some of the cells elongate and their walls thicken, forming what is called *woody fibre* or *woody tissue*, because it makes up the larger portion of the wood of trees and shrubs. When a portion of woody fibre is examined under the microscope, it is seen to consist of numerous elongated cells (fig. 5), which taper at each end and so overlap one another as to give much greater strength to the fabric, than can be attained in the cellular tissue described in the last article (p. 49). Even tender herbs contain more or less of woody fibre, and in the leaves it forms the network of ribs or veins which give strength while the spaces between are filled with soft cellular tissue. The size of these wood cells is ordinarily from $\frac{1}{2000}$ to $\frac{1}{5000}$ of an inch in diameter, and of a length varying from $\frac{1}{100}$ to $\frac{1}{12}$ of an inch. The longest wood cells are found in the inner bark, and it is their flexibility and toughness which render flax, hemp, bass-wood bark, etc., so valuable for their fibres. When we look at a cross section of many woods — the end of the wood as it is called—we can see without the aid of a glass numerous openings or large pores. These are large cells, called *ducts*, which are intermingled with the proper woody fibre, and are especially noticeable in the wood of the grape vine. Fig. 7, represents one of the ducts from the grape vine; it is seen to be made up by the union of several short cells, placed end to end. From the numerous dots which appear on their walls, they are called *dotted ducts*. These dots are not holes through the cell walls, but merely thin places in them. Similar thin spots are seen in ordinary woody tissue when highly magnified, but no openings are discover-

Fig. 5. WOODY FIBRE.

Fig. 6—SPIRAL DUCTS.

Fig. 7.—DOTTED DUCT.

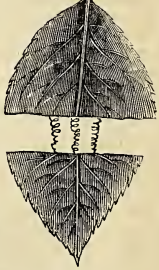


Fig. 8.—SPIRAL DUCTS IN LEAF.

ed, communicating between the adjoining cells. There are other forms of ducts, the most common of which is the *spiral duct*, so called from the spiral lines with which it is marked (fig. 6). This peculiar appearance is caused by a delicate lining to the cell, arranged in a spiral manner, and which can be pulled out from the cell itself. By carefully breaking across a leaf of a rosebush, or strawberry vine, this lining will be pulled out, and if the breaking is done with skill, it will keep the two parts from entirely separating, as in fig. 8. Sometimes the lining is in the form of rings (fig. 9). The spiral ducts can be seen in the stringy portions of Rhubarb stalks, and Celery. These various forms of cells are what the microscope shows us inside of a plant; they are closed cavities of different form and size, but all of essentially the same nature. It is evident that the growth of the plant consists in the multiplication of these cells, and that whatever takes place inside of the plant must take place within these small cells.

Fig 9.—RINGS IN DUCTS.

Black-Cap Raspberries.

The introduction of several improved varieties of our native Black-Caps, such as Doolittle's and the American, has added another to our list of small fruits. These varieties have the advantage that they do not spread by suckers like the ordinary raspberries. They are perfectly hardy. The plants may be set in any good soil early in Spring. Three feet in rows six feet apart, will be a good distance; this will allow room to use the cultivator between the rows. The plants the second spring are trimmed by cutting the tops back to about 2½ feet, and in June the new canes which have shot up are clipped when they reach the same hight. At each spring's pruning the wood which has borne the year before is cut out, and any branches that are in the way of cultivation removed. The plants are propagated by layering the ends of the pendent branches in September or as soon as their tips become firm. The ends of the branches are inserted perpendicularly in the ground, just deep enough to secure them from being blown out. In this position the layers will root and be ready for removal next spring.

Clear up the Front Yard.

A pleasant home should never have an unpleasant approach. In the general spring clearing up, do not forget to put the front yard "to rights." We do not advocate anything stiff, formal, or expensive. Straighten up and repair the fence. Remove everything from the yard that does not belong there. Have a good walk from the gate to the front door, not one that is sunken below the general level and always flooded in rains; but let it be a little raised so as to be passable in all weathers. Have some flower borders by all means, but if there is unfortunately neither time nor taste for these, have grass and some trees and shrubs, not set in stiff rows, but dotted here and there. Then get a Virginia creeper (American Woodbine), or Wax work vine from the woods and run it over the porch, if there is one, or if not, run it upon the door. A climbing rose may be easily obtained and will be very beautiful when in bloom. A small amount of work, and a little taste will make even an humble house look attractive and homelike.

THE HOUSEHOLD.

A Villainous Scheme — "Photographic Union."

An operation has recently come to our knowledge which calls for prompt and vigilant attention by the parents of every young lady, and concerning which young ladies themselves will do well to take heed. Parties in New-York City have distributed circulars to unprincipled young men in different parts of the country, requesting them to collect and send to the "Photographic Union," photographs of young women, with particulars concerning their residence, pecuniary circumstances, disposition, habits, and other matters of interest. Prizes from $20 in cash to a "set of jewelry," are offered to those who shall send in the largest number of "photographs and biographical notices." The proprietor of the "Union" proposes, after having got together a large number of portraits, to exhibit them in a "private gallery" and to allow young men to examine them "for a consideration," and also to study the "biographical sketches" with a view to select a partner, or a *victim*. The latter idea of course is not published in the circular, but the slightest thought will show that not one in a thousand men would visit such a gallery with any commendable motive. Some would be looking for money, some for mere curiosity or for an adventure, and not a few for the worst purposes that can be imagined. We understand that measures are already taken to endeavor to break up this concern, and every parent will rejoice if they prove successful. Every reader of the *Agriculturist* will see the necessity for care as to what becomes of the photographs they may order. Unscrupulous artists might easily keep duplicates for the "Union." The only preventive is to employ no one to take a picture whose character and standing are not above suspicion.

Notes on Dress for Spring.

Prepared specially for the American Agriculturist,
BY MME. DEMOREST.

All nature will soon be putting on new robes, and not a few of our lady friends will desire to follow her example: a few suggestions as to favorite or desirable styles of dress are here presented.

Bonnets.—For these the shape is very little altered. A shirred silk front with full cap crown; the cape shirred, or with small folds of silk laid on; a ribbon bow with long ends, falling over the crown, or bunch of fruit or flowers outside, is the favorite style for a simple promenade bonnet.

Mantles.—The basquine, richly trimmed, both in silk and light cloth, takes the lead. For travelling suits the short sacque and the talma, generally trimmed to match the dress, are preferred. For *dress goods*, rich poplins in mauve, pearl gray and London smoke (known also as coal oil colors), will be very popular, along with self-colored taffetas in those shades, and in green *cuir* color. The best trimmings for these are chenille and the handsome gimp ornaments made in sets for sleeves, waist and skirts. Alpaca still retains its place as a most useful as well as stylish material for ordinary wear; plaids are worn, although less in favor, except for young people. A ronde or circular of plaid or plain material with a deep plaid trimming is a favorite mode; with this, should be worn a plaid scarf made of netted silk with fringed ends. Silks in all colors are very handsome this season, but high priced. We have seen some very beautiful material for morning dresses just imported. It is white pique, also white and buff French cambric, with a deep braid pattern round the skirt-jacket, and sleeves in black, very novel and tasteful both in style and shape of jacket.

Dress skirts are still worn very long, and from five and a half to seven yards in width at the bottom. In the street the skirt is universally raised from contact with the walk by the convenient use of the new imperial dress elevator, before noticed.

Bodies for pique and French cambric are made round with belt and buckle, for evening, dinner, and walking dresses; favor is pretty equally divided between points, Figaro jackets and vest, and the postillione. All the varieties of dress and of basques have narrow sleeves. Velvet is much used a shade darker or lighter than the dress. Fringe, especially chenille is very popular. Ruches, flounces, butterfly bows, medallions and leaves of lace for decorations are all in high vogue this spring.

About Moths.

Many a lady, on taking out her furs the past winter, noticed the hairs falling out, and, on examining the skins themselves found them perforated with small holes. These holes are cut by the moth—an insect whose habits every lady should know all about. Naturalists tell us that the moth is the larva of a family of insects called *Tinea*. Its winged life begins in the spring, and lasts only a few months. It is small, and of a light brown color. After fluttering around a short time, it finds a mate, when the happy pair go to housekeeping, and to building up a family. The female creeps into cracks and crevices, into closets and clothes' presses, under the edges of carpets, wherever woolens or furs are stored away, and there she lays her eggs. The parents soon die. In a fortnight, the eggs hatch out into light colored caterpillars about a quarter or half an inch long. They begin to gnaw upon whatever they can find to make nests of. It is in doing this that so many carpets, so much upholstering, and so many furs are punctured. In winter they lie torpid. In spring the chrysalis gives birth to the winged insect, which again begins the circle of pairing and egg-laying as its parents had done before.——Now, as moths lay their eggs mostly in June, that evidently is the best time for making an onslaught upon them. Take out every article of fur or woolen, give a thorough shaking and whipping, a long exposure to hot sun, if practicable, and another dressing with the switch before storing them. Put salt and Scotch snuff under the edges of the carpets. Fumigate the closets and drawers with tobacco. On returning the articles to their places, put small branches of cedar or distribute little packages of camphor gum among them.

Tim Bunker's Trip to Washington.

MR. EDITOR.—Being a modest man I was considerably surprised when I saw in the February *American Agriculturist*, that you had many inquiries after my health. Indeed I was never so much surprised afore, but onee, and that was when the people of Hookertown made me a justice of the peace—an office that I still hold to the general satisfaction of my fellow citizens—that is, if they don't lie. I wasn't particularly flattered however, that they should think I had been sick, as if an honest man had nothing to do in the world but to be sick, or to write for the papers. You see, I hold that a man who comes into the world with a good constitution, (which by the way, is the richest inheritance parents can leave to their children,) and lives temperately and virtuously, has no business to be sick. If he indulges in drink and tobacco, late hours and fast living, he is very likely to have fevers, colds, headaches, and all "the ills that flesh is heir to." To hear inquiries about my health looked a leetle as if there was a suspicion that I had been doing something that I ought not to. I am happy to say to your numerous readers, that I have not been robbing hen roosts, and haven't been sick.

And to prevent any anxiety in their minds in the future, in case I don't write, I may as well say that I manage a farm in Hookertown, and *that* is my business, except when I hold a justice's court, or something of that kind. A man who is feeding cattle, getting up his winter stock of wood, drawing muck and sea weed, top-dressing meadows, making compost heaps, relaying wall, and attending

a little to the war and politics, can't be expected to write much for the papers.

But last month, ye see, I had a special hinderance, and the way it came about was jest this. Mrs. Bunker was sitting by the fire one evening, reading the paper, when she stopped suddenly, took off those gold-bowed spectacles that Josiah gave her, and laid down the paper, and says she, "Timothy, I want to go to Washington. You see I have been knitting and sewing, drying and brewing for the soldiers for over two years, and I should like to know where all the things that we have boxed up go to. Some say there is an awful waste of these things, that the shirts are used for wadding to the cannon, that the wines and cordials go to the well soldiers instead of the sick ones, and the stores of the Sanitary Commission never see the inside of a hospital. I should like to see for myself, and while I am down there I should like to see John." "Agreed," says I, "We'll start for Washington to-morrow."

You see we went down south five years ago, and came home so well satisfied with Hookertown that we have hardly been out of the place since, for more than a day or two at a time. Sally Bunker has been the most contented woman in all my experience from that day to this. I was rather glad when I saw that she had got her mind on a visit. It very soon got wind that we were bound to Washington, and almost all the neighbors brought in their axes to grind, as if I should have nothing to do while I was down there but to turn the grindstone for 'em. Among others, Jake Frink came, and said he would be much obliged if I would get him appointed keeper of the Hookertown lighthouse. He said he would take back all the uncivil things he had ever spoken against me, would forget the horse-pond lot, and would admit that I was the best farmer, and most straightforward justice in town. Says I, "No you don't Jake Frink. That won't go down. But I am willing to lay your case before the President and give him my honest opinion."

It took Mrs. Bunker a week to get started, for she had to go down to Shadtown to see Sally and the grandchildren, as if she wasn't going to see 'em again in a year. We went round outside so as to see the Potomac river, Mount Vernon, and as much of the rebel country as was possible in so short a time. The valley of the Potomac surpassed all our expectations. It is a magnificent region, with every natural facility for agriculture and commerce, and the trades connected with them. We sailed all day up that river without seeing any thing like a village until we reached Alexandria. There were beautiful farming lands, still well wooded, and occasionally a fine planter's mansion, with its group of slave cabins. But for the most part the houses are dilapidated and look forsaken. How rapidly will a change come over this scene, when energetic men take possession, and villages spring up like magic along the banks of this noble river. There ought to have been a half million of people here instead of a handful of planters.

Mrs. Bunker had heard awful stories about the steep prices for board in Washington, six dollars a day at Willard's and hard to get in at that, and was a good deal worried lest the money should give out before we finished our visit. Now you see these high prices are only for the rich ones who don't care, and the green ones who don't know any better. We soon found that Washington is about the best place in the country for people to live independently. In Boston they ask you if you know any thing; in New-York, how much money you have got; in Philadelphia, who is your father? In Washington they take you upon trust, until they find you out. As we did not calculate to stay long enough to be found out, it suited us exactly. Your respectability does not depend upon your keeping house, boarding at a hotel, or taking furnished rooms and having meals served to suit your convenience. To people who have backbone and can attend to their own marketing, living is not much dearer than in New-York.

I kept my eyes opened while in the Capital, and was astonished to see the enormous waste they make of hay and provisions, and every thing else in this war. One would think that when hay is $30 a ton, they could afford to take care of it, but it is dumped down almost anywhere, and has to take its chances with the weather. Corn and oats fare pretty much in the same way. I judge that musty grain and hay must be plenty in the army. I saw a large herd of government cattle, perhaps fat when they were bought, but they had got to be rather lean looking specimens. Had the Potomac been the Nile, I should have thought of the lean kine of Pharaoh. It was suggested by an observer that the purses of contractors were not lean if the cattle were.

I attended to Jake Frink's business early; I went right round to the White House and found a colored man at the door, and says I, "Is Mr. Lincoln home?" Says he, "The President don't receive calls to-day." Well says I, "You jest tell him that 'Squire Bunker of Hookertown wants to see him on a little business." I got in by that trick. I expect he had seen my name in the *Agriculturist*, though I didn't know him from Adam. He received me with a smile in one corner of his mouth, as if I had been an old acquaintance. Says I "Mr. Lincoln I ha'nt got any ax to grind for myself, but one of my neighbors has—wants a lighthouse, and I promised him when I left home to see you about it." "Well," says the President, "that hardly comes under my direction, I shall have to refer you to the Light House Department." "Well," says I, "I don't care what you do with it. I want to say that Jake Frink is rather a poor farmer, don't manage his own business well, and I don't think he would manage yours any better. His light don't shine on the farm, and I don't think he would make it shine in a Light House."—"'Squire Bunker, you are a brick, but you don't understand the way they do business. *If a man can't do any thing for himself, he thinks he is just fit to manage Uncle Sam's business.* I will give *you* 'Squire Bunker, the Light House in Hookertown, with great pleasure." I assured the President that I was still acting as Justice of the Peace and should have to decline the honor.

Hookertown, Conn., Feb. 10th, 1864.

Yours to command,
TIMOTHY BUNKER Esq.

Power of the Human Body.

According to Youmans, the amount of heat generated annually, in the body of a man, is sufficient to raise from 25,000 to 30,000 lbs. of water from the freezing to the boiling point. Part of this passes off, but most of it is consumed in the working of the various organs. All the acts of the body, every motion, utterance, breath, or thought expends force, which is only another form of heat. We make about 9,000,000 separate motions of breathing in a year, thereby inhaling and expelling 700,000 gallons of air. At the same time the heart contracts and dilates 40,000,000 times—each time with an estimated force of 13 lbs, while the blood annually driven through the heart, if a fresh supply were furnished at each pulsation, would amount to thousands of tons. Besides these involuntary acts, the organism generates force for almost innumerable forms of voluntary physical action. A healthy laborer is assumed to be able to exert a force equal to raising the weight of his body through 10,000 feet in a day. Supposing him to weigh 150 lbs., all the force emanating within his body in one day, would, if combined, be sufficient to move 15,000 lbs. the distance of 100 feet.

How to Treat Frozen Limbs.

The N. Y. Evening Post thus discusses the philosophy of freezing, and the mode of treating frozen parts. The juices of the fleshy tissues when frozen in their minute sacs or cells, at once become in each of these enclosures, crystals, having a large number of angles and sharp points; and hence rubbing the flesh causes them to cut or tear their way through the tissues, so that when it is thawed, the structure of the muscle is more or less destroyed. The proper mode of treatment is this: "When any part of the body is frozen, it should be kept perfectly quiet until it is thawed out, which should be done as promptly as possible. As freezing takes place from the surface inwardly, so the thawing should be in the inverse order, from the inside outwardly. The thawing out of a portion of the flesh, without at the same time putting the blood from the heart into circulation through it, produces mortification; but by keeping the more external parts still congealed until the internal heat and the external blood gradually soften the more interior parts, and produce circulation of the blood as fast as the thawing takes place, most of these dangers are obviated. If the snow which is applied be colder than the frozen flesh, it will still further abstract the heat and freeze it worse than before. But if the snow is of the same temperature it will keep the flesh from thawing until the heat from the rest of the body shall have effected it, thus preventing gangrene. Water, in which snow or ice has been placed, so as to keep its temperature at 32° Fahrenheit, is probably better than snow."

Making Cheese in Winter.

Mrs. M. J. Stephenson writes to the *American Agriculturist:* "Farmers' wives know how difficult it is to get butter from frozen milk. You may churn and churn for hours sometimes, and then after all the work it will be nothing but froth. I was at one time in trouble, what to do with frozen milk, when the thought struck me to run it up in a curd. So I took my little tin vat and put it on top of the stove and then brought pan after pan of 'ice cream' until the vat was full. After a while it thawed out, and when it got to blood heat, I put in the usual quantity of rennet, and the curd came as nicely as though it had never been frozen. I ran off the whey in the old fashioned way, cutting up the curd a couple of times, and pressing out the whey with a weight on top of the cloth; then tied up the curd, and hung it in the cellar. After three or four days I had accumulated another vat full of milk. I then made another curd, and while it was getting ready, I brought up the curd from the cellar, cut it up in small pieces like kernels of corn, and put it in warm water. It was very little sour-ed, but yet I scalded and salted it by itself, as sweet and sour curd are so apt to "run together." Then as I put them in the cheese hoop, I mixed them thoroughly. I felt a little nervous all the time I was about it, lest the curd would not unite, and finally lest the cheese would not taste well when cured, but I could perceive no difference between it and other cheese made from milk not frozen. There are no flies in winter time and the curing of the cheese is not so troublesome. The milk being much richer then, is I suppose, the reason of the cheese being more delicious. If the cheese is kept in the kitchen, or in a room with fire in—which is indispensable—it cures nearly as quick as in summer, and after the first week or two, it need not be turned, save every second day. It should be rubbed well with butter or oil every time it is turned

Hints on Cooking, etc.

Wholesome Bread—Poison, etc.—D. M. Allen, Geauga Co., O., writes to the *American Agriculturist*, that economical, nutritious, and wholesome bread can be made by simply mixing unbolted wheat meal with cold water or milk, to a stiff batter. Dip it with a spoon upon a pan, and bake twenty to thirty minutes in a hot oven. He thinks *salt*, soda, saleratus, and other minerals, poisonous. He does not inform us how the mineral constituents of grain are to be disposed of, for there are more than two pounds of minerals in every hundred pounds of flour, put there by nature. He might also be reminded that no man's stomach is a safe guide for another's diet. Thousands live and thrive on bread made in the ordinary method—those who can not, are free to suit their own cases.

Pickled Oysters.—"Aunt Sue," so well known to the long-time readers of the *American Agriculturist*, furnishes by request, the following di-

rections for putting up the best pickled oysters the writer found on New Year's day. "Put the oysters (say 200), with their juice, into a large saucepan (on the fire, *of course*): let them simmer (but not boil), until the edges curl, and they become solid but not shriveled. On this part of the performance depends success or failure. Now strain off the juice and wipe the oysters with a nice clean cloth. Let the juice settle, then pour off about a quart, leaving the sediment undisturbed. To this clear juice, add 1 pint white-wine or other vinegar, a little mace, two dozen cloves, and a handful of black peppers. Heat it over the fire (but don't let it boil), pour it while hot over the oysters. Put them in a stone jar and in two days they will be *ever so nice*, provided the family haven't devoured them the day before."

Sweet Apple Pudding.—Contributed to the *American Agriculturist*, by Mrs. E. M. Voorhees, Seneca Co., N. Y.: Pare and core the apples, chop them fine, and stir them into a batter made of sweet cream, eggs and flour, say three eggs to a pint of cream, and flour enough to make it not very thick. Stir well, and bake on round buttered tins, or pudding dishes. This needs to bake two or three hours. The best sauce to eat with it, is sweetened cream; any other preferred, will do.

Cheap Rice Pudding.—Contributed to the *American Agriculturist* by Mrs. Lansing, Jefferson county, N. Y.: Soak 2 cups of rice in 1 quart of sweet milk for 1 hour. Then add 1 teaspoonful salt, ½ pound raisins, 4 eggs, 1 cup flour. Spice to your taste. Pour in a deep dish, and bake 2 hours.

Pudding Hint.—A lady contributor suggests that the Farmer's Pudding described in the January *Agriculturist*, page 23, would be much improved by baking two or three hours, instead of 40 minutes as there recommended. Indian meal needs long application of heat to fit it well for food.

Sweet Apple Pie.—Contributed to the *American Agriculturist*, by Mrs. E. M. Voorhees, Seneca Co., N. Y.: Pies made of sweet apples used in precisely the same way as pumpkins, omitting the ginger and adding a little lemon if liked, for seasoning, are better to the writer's taste than pumpkin pie itself. Pare, cut, and stew the apples. If cooked in a covered deep earthen or other dish in the oven, they are better. Strain through a colander, add a little milk—cream is better. If there be no eggs to spare, stir in a handful of flour, or, about a spoonful to a pie. Sweeten to taste with sugar, a mere trifle will be found sufficient; bake a good while in a moderate oven.

Griddle Cakes.—Mrs. Dr. J. W. Smith, of Charles City, Iowa, writes to the *American Agriculturist*, that in the absence of buckwheat flour, owing to the frosts of 1863, she finds that unbolted wheat meal mixed with sweet milk so as to form a rather stiff batter, and baked a little longer than buckwheat, forms not only an excellent substitute, but is in some respects even superior to that article. The meal was of spring wheat. [One of the editors has thoroughly tried the above and pronounces it a healthful and palatable article.]

Soft Ginger Cake.—Mix 1 cup of sugar, 1 of molasses, 1 egg, butter the size of a walnut, 1 cup cream (milk, or buttermilk will do,) 4 cups flour, ginger to taste, and a small teaspoonful of soda. It bakes quickly, in iron pans.

"Scalded Cream."—A lady, "E.", Ontario Co., N. Y., writes to the *American Agriculturist*: "To make the dish called 'Scalded Cream,' or 'Junket'; two preparations are necessary. 1st, place milk as soon as it is obtained, in a cool place, in a tin pan, and let it remain undisturbed for 12 or 24 hours according to the weather. Then, place it on the stove to thoroughly heat, but *not boil*. When the shape of the bottom of the pan is seen clearly defined on the cream, it may be set away to cool for another 12 hours. 2nd, prepare new milk with rennet as for cheese, being careful neither to put in too much or it will be bitter, nor to break it lest the whey rise. It should be made in the same dish from which it is to be eaten. When it is curdled, some of the cream prepared as above must be placed over it, and the whole powdered with sugar and nutmeg. To be eaten directly after making."

☞ For other Household Items, see "Basket."

BOYS & GIRLS' COLUMNS.

He Knew How, and Did his Best.

No one can tell what good may come from doing well. This is seen in the case of M. Bravay, a very wealthy gentleman in France. When a boy, he learned the shoemaker's trade. The business did not pay well in Paris, and after travelling about for a while, he went to Egypt and worked for a shoemaker in Cairo. One day a gentleman brought in an embroidered slipper to be mended, and it was handed to Bravay, who was the most skillful and careful workman in the shop. When the work was finished, the gentleman was so greatly pleased with it, that he promised to send for him the next day, to give him another job. Accordingly a messenger came and conducted him to the Palace of the Viceroy, or reigning governor of Egypt, who to Bravay's surprise was the stranger he had previously worked for. The Viceroy after a little conversation proposed to him to contract for making shoes for part of his army; the terms were soon settled, and from that time his fortune was made, the result of knowing *how* to work, and doing his best. There are many more fortunes to be made by following this rule.

The Shingle Boat.—A Good Story.

Little John Cole's father was about to die, and as he had no property to leave to his wife and children, he felt very anxious and unhappy. Johnny had been told that his father would die, but he did not know what death meant; and, therefore, with all the innocence of a good little boy, he asked his father what he could do to help him. "You cannot help me, Johnny," said the sick father; "but when I am gone, you can help your mother."—"Where is papa going to?" said John, "Can't you let me go with him?"—"No, nobody can go with me; I must go alone."—"When will papa come back?" said the little fellow; "without any papa where will we get money to buy our bread?"—"I shall never come back, my dear boy. When people die they never come back."—"Well, then, will you not to send for us, papa? for we can't live without you."—"You will break my heart, Johnny, if you talk so. I shall not send for you, but God will, and then we shall meet again. Now, my dear boy, you must stay with your mother, and try to make her happy."—"So I will," said Johnny, "but I don't know how to. I can't work much yet. Yes, I can make shingle boats and sell them."—"You can do better than that," said the father; "you can be a good boy, and behave well, and love your mother, and this will help her more than any work you can do."—"Well, I'll do all that," said Johnny; "but people won't love mother because I love her, and then where is the bread to come from?"—"God will send it, if you are good," said the poor man, who could hardly speak, he was so overcome by the innocent talk of his little child.

The father died; the poor widow had to go into a single room, and work out almost every day to support Johnny and his little sister. Johnny did all he could to help his mother; and he did a great deal, for when his mother was absent, he took care of little Sis. When she was asleep, one day, he took the jack knife that belonged to his father, and made what he called a boat, out of a shingle, and then stood at the door and asked every one that came along to buy it. "Do you want to buy a boat?" said he to a large boy who was passing.—"You get out!" said the boy, as he knocked the boat into Johnny's face and broke the mast. The poor boy's heart was almost broken, too, but he made another mast, and stood at the door again. Two little girls came along, and Johnny asked if they wished to buy a boat.—"What do you call it? a boat?" said one of the girls. "It's a funny looking boat." "We don't sail boats," said the other girl.—"Well, you don't know what fun it is," said the little boat-builder.—"We have no wish to know," said they as they went off, laughing at poor Johnny.

Presently an officer of the frigate that was lying in the harbor, passed by. "Please buy my ship?" said Johnny, very imploringly.—"Did you make it?" said the officer.—"Yes, I did all myself," said Johnny.—"What put it into your head to make a ship?" said the good-natured man.—"Why, you see," said the little fellow, "Sis hasn't any bread to eat, and I thought I'd work and earn some money, and buy some."—"Who is 'Sis'?" said the Captain.—"Why, don't you know Sis?" said Johnny; "just look in here." So the officer entered, and saw Sis asleep on the bed.—"Whom do you belong to?" said the Captain.—"To mother, now," said Johnny, "for father is dead and gone away." Just then the little Sis opened her eyes, and seeing the uniform of the officer she began to laugh.—"What do you ask for your ship," said the Captain.—"One cent, if you can't give any more," said Johnny.—The Captain gave him a pat on the cheek, and said, "Wait a few minutes, and I'll come back and buy your ship." He went out and bought two large loaves of bread, and gave them to Johnny. He then patted Johnny's head, and told him to be a good boy, and he would come back and see his mother. He did call again, and after learning all about the family, he promised to take care of them; and when Johnny was a large boy he took him on board his ship, and when he had grown up and learned all about the ship, the Captain made an officer of him, and adopted him; and after a battle, when he was dying of a wound he had received, he asked Johnny, who was now Lieut. Cole, to hand him that casket on the desk:—"Open it," said the Captain, giving him a key.—"What do you find there?" said the Captain.—"Nothing but my shingle boat," said Johnny.—"When you made that boat, you made your fortune," said the Captain. "Under the boat is my last will, and all the property I have is yours." John became a rich man and he deserved it.

Now, what is the object of this story?—Merely to teach you that, if you are good, and *do* all you can, God will in some way help you. The shingle boat was a small affair to the unfeeling boy who broke it, and to the thoughtless girls who laughed at it, but to the officer and to God it was above all price. Go, then, my young friends, and in your conduct imitate Johnny Cole.—*S. S. Gazette.*

New Puzzles to be Answered.

No. 72. *Mathematical Problem.*—The wheels of a chaise, 5 feet apart, each 4 feet high, in turning within a ring, moved so that the outer wheel made two turns, while the inner made one. What was the length of the circular track described by each wheel?

Fig. 1.

Fig. 2.

No. 73, 74, 75. *Puzzling Pictures.*—Fig. 1 is designed to represent a coxcomb. Fig. 2 is what soldiers are pleased with. Fig. 3 is a vegetable production found most abundantly at the South, and West. Please explain the resemblances. Some idea of the manner of solving these and similar puzzles may be gained from inspecting No. 56, November Number, page 345.

Fig. 3.

No. 76. *Illustrated Rebus.*—Very good advice for all.

Answers to Problems and Puzzles.

The following are the answers to the *Mathematical Problems*, Nos. 62, 63, 64, in January No., page 23: No. 62, the diameter of the gold ball, 248. 206+ inches—No. 63, the diameter of the silver ball 659.207+ inches—No. 64, area covered by the bills 4869 A., 1 R., 12 Sq. P., 197 Sq. Ft., 63 Sq. In— Answers to problems etc. in February No., page 55.—No. 66. *Mathematical Problem.* The required parts are 8, 12, 5, and 20.—No. 67. *Illustrated French Rebus. J'ai dix nez à cinq clous vis-à-vis du roi*; which may be read, J'ai diné à St. Cloud, vis-a-vis du roi.—No. 68. *A Curious Word*—Manslaughter, which may be divided into man's laughter.—No. 69, *Mathematical Problem.* The land of the daughter who had the square portion, was worth $1,115,136; the circular portion, $875,827. 8144.—No. 70 *Illustrated Rebus. "Matches made in hay star of ten ruin us"* or "Matches, made in haste, are often ruinous." No. 71. *Genealogical Puzzle.* Explanation. A man married a widow who had a daughter: afterward his brother, a widower who had a son, married the daughter. Only the following have sent in correct answers up to February 6th. Willie F. Bennett, 65; John Montelius, 66; "G. R. B." 69; Anthony Alsop, 64; W. S. Negus, 67; C. Addison Northrop, 62, 63, 64; Lucy R. Weeks, 64; "Greenhorn", 66; Richard Lovett, 66; E. Byron, 66; O. Kirehner, 66.

OUR ABSENT SONS AND BROTHERS—"HOME, SWEET HOME."—*Sketched and engraved for the American Agriculturist.*

It would be easy to read the story of the above beautiful engraving without a word of explanation. The "boys" in camp have gathered around the fortunate owner of a violin, to while away a leisure hour. Suddenly he strikes upon a tune that touches the tender chords in every heart "Home sweet Home!" What pictures rise in the memory of each. One thinks of a loving mother, a gentle sister, or younger brothers who clung to him when he answered his country's call, and could only give him up when he said "It is for my country." Another, a statwart soldier, vainly endeavors to conceal his feelings, as he can almost see his wife and little ones grouped in the cottage among the hills where he was happy until duty bade him go forth. None but those who have taken part in such a scene can know the emotions it awakens. Thousands of our young readers have dear relatives in the army. As they look on this picture and their hearts are stirred; let them do all in their power to cheer and encourage these loved ones. Nothing can do this so well as "letters from home." Chaplains and others tell us, that the steadiest, bravest and best among their men, are those who are continually thus remembered by their distant friends; and that many have fallen into dissipation and ruin because of neglect of those who ought to have written. Elsewhere in this paper we propose another plan for remembering the soldiers, and we earnestly invite all our young friends to heartily join in the enterprise.

Curious Debt and Credit Account.

A correspondent of the Northwestern Christian Advocate relates the following anecdote of an itinerant Methodist preacher in Ohio: At the close of service on one Sunday, a gentleman not a church member asked him home to spend the night, and when he left in the morning, invited him to call whenever it suited his convenience. This the preacher often did, as he passed that way on his circuit, and one day at the end of the year, offered payment for his frequent entertainment. The gentleman brought out an account book, where were charged meals, lodging, horse-keeping, etc., amounting to near twenty dollars. Though surprised, the minister immediately said he had not so much money with him, but would call and settle before leaving the circuit. "Stop," said his host, "let's examine the other side," and then he showed a credit of one dollar for every sermon preached in the neighborhood, a sixpence for every blessing asked at the table, and a shilling for every prayer offered in the family, except one where the preacher had knelt on one knee—for this the credit was sixpence. The account showed three or four dollars due the preacher, which was immediately paid over, and they parted on the best of terms.

A Noble Business Man.

A friend relates for the boys and girls of the *American Agriculturist*, the following incident of a gentleman well known in the United States, for his useful talents and large business operations, but whose name we are not permitted to give. During the present war, he made a contract with a mechanic to supply him with a large quantity of tin cans. Not long after this, the price of tin rose so much that the contractor must lose money by completing the work at the price agreed upon. However, he said nothing, but went on delivering the cans. When the first bill for part of the cans was received, the employer called upon him, and said, "I understand you are losing money on this job." "Yes," replied the contractor, but I can stand it; a contract is a contract you know." "How much will you lose?" asked the gentleman. "Oh, no matter," was the reply, "I don't complain, and you ought not to." "But I insist upon knowing." "Well, since you desire it, I shall lose so much per hundred," naming the amount. "Well, sir," said the noble hearted man, "You must not lose this, it would not be right, I shall add the amount to your bill, and as the price of material may still rise, I will advance you the money for the whole of the contract, which no doubt you can now use to advantage." The difference thus paid, to which the contractor laid no claim, amounted to $500. That was something more than business honesty, it was Christian principle carried out in business. The world needs just such examples to convince it of the truth of religion; all honor to the few who do thus exemplify the golden rule.

"Olla Podrida" Amusement.

Not long since the writer witnessed much merriment at an evening party, caused by making an "Olla Podrida," as it was called, in the following manner: A slip of paper was given to each one of the company, and each was requested to write an adjective at the top of it. Then the writing was folded over backward so as to be out of sight, and the papers were all changed by each one passing his own to his left hand neighbor. Every one then wrote the name of some gentleman, folded it backward and the papers were passed on as before. Another adjective was written; then a lady's name; the name of a place; what the gentleman said; what the lady said; what the world said, and what were the consequences; the papers being folded and passed on to the next person, after each writing of these particulars. Finally one of the company read the sentences thus made, on all the papers, adding the words marked in italics in the example below. As no one when writing knew what had been previously placed on the paper, the effect in many cases was very comical.—Here is one of the sentences which was actually written, omitting the names: "The LEARNED MR. A. *met* INDUSTRIOUS MRS. B. *in the* KITCHEN." *He said* "Good news from the army;" *She said* "I hate a coxcomb;" *the world said* "We know it would be so," *and the consequences were*, not a suiolde. As both the lady and gentleman named in the sentence were present, the joke was received with shouts of laughter.—[This is an old play, common in our boyhood days, though it may be new to many of our young readers. It will answer for an occasional diversion, if not allowed to degenerate into nonsense. The usual difficulty is, that in a miscellaneous company, some would-be-smart young man spoils the good character of the sport by writing out unseemly phrases under the false impression that he is doing a witty thing. Children and old people may well indulge in innocent recreation, but they should take care never to lose their dignity with others, nor to lessen their respect for themselves.—ED.]

Business Notices, One Dollar per Line of Space.

PROFESSOR YOUMANS ON CLOTHES WASHERS AND WRINGERS.

To the Editors of the Saratogian:

When engaged, three or four years since, in the preparation of my work on *Household Science*, the problem of Mechanical devices for washing gave me serious perplexity. I observed, inquired and experimented to no little purpose, and was constrained, at last, to acquiesce in the universal feminine suffrage, that washing machines were dead failures; and, therefore, passed the subject by in the book.—Nevertheless I was not quite at ease in the decision. It seemed extraordinary that mechanical genius, which is working such miracles in all other parts of industry, should break so completely when it entered the kitchen,—should be able to contribute nothing toward mitigating the grim confusion and sloppy horrors of washing-day. At the last fair of the American Institute, in noting the progress in this department of inventive ingenuity, my attention was attracted to *Doty's Clothes Washer*, as combining some points of marked advantage. The union of the fulling-mill principle of acting upon the clothes, with the easiest possible mode of applying the power, seemed sufficiently promising to warrant a trial. As for the clothes wringer, that is already an "institution"; so much, thank heaven, is positively gained. Examining the various forms of these implements, I decided upon the self-adjusting kind, which is made entirely of wood and rubber [Wm. M. Doty, Agt., price $6.], and purchased both a wringer and a washer. They were received, of course, with due protests and abundant faithlessness, but they have triumphed; and I speak within bounds, when I say that they have fulfilled my utmost expectation. Our family is not small, but a smart girl, eleven years old, did our washing last week in about four hours, and that too, more as a frolic, than a task. Indeed our nymphs of the suds would be highly indignant to part with the new help. I write solely in the interest of the household. E. L. YOUMANS.

Dec. 26, 1863.

NOTE. The Western Factory of the above Clothes Washer is now also in successful operation. Orders, *Wholesale or Retail*, filled either by E. P. DOTY, JANESVILLE, WIS., or WM. M. DOTY, 42 PARK ROW, TIMES BUILDINGS, N. Y., (late 498 Broadway.) Price still only $10.

HUTCHINSON'S BURNER. The numerous orders we are receiving and the high commendations our burner elicits from those who use it, have induced us to make arrangements for a further accommodation of those who order of us, for which see advertisement in this paper.

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P. S.—In accordance with its plan of publishing all important official reports, the ARMY AND NAVY JOURNAL of Feb. 20th, and 27th contains the **ENTIRE REPORT OF GENERAL McCLELLAN** in two large Supplements in convenient form for reading and preservation. Price of these two numbers with the supplements, 40 cents. Sent post-paid by mail at this price.

The Markets.

AMERICAN AGRICULTURIST OFFICE.
New-York, Thursday Morning, Feb. 18, 1864.

1. TRANSACTIONS AT THE NEW-YORK MARKETS.

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
28 days *this* m'th	308,000	26,500	191,000	6,500	68,000	282,000
24 days *last* m'th	232,000	11,500	96,000	7,500	58,500	273,000

SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*
28 days *this* month,	415,000	3,891,000	1,853,000	13,400	98,500
24 days *last* month,	297,500	2,573,000	1,467,000	29,000	102,700

2. *Comparison with same time last year.*

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
28 days 1864	308,000	26,500	191,000	6,500	68,000	282,000
28 days 1863	211,000	26,000	163,000	39,000	162,000	225,000

SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*
28 days 1864	415,000	3,891,000	1,853,000	13,400	98,500
28 days 1863	452,090	2,416,000	2,571,000	36,300	126,000

3. *Exports from New-York Jan. 1. to Feb. 18.*

	Flour, bbls.	Wheat, bus.	Corn, bus.	Rye, bus.	Oats, bus.
1864	211,434	1,653,761	14,278	105	1,888
1863	393,366	2,367,292	850,041	29,827	96,209
1862	429,926	1,759,747	1,830,812	208,296	2,757

CURRENT WHOLESALE PRICES.

	January 16.	February 18.
FLOUR—Super to Extra State	$6 50 @ 7 25	$6 25 @ 7 20
Super. to Extra Southern	7 65 @11 00	7 65 @11 00
Extra Western	7 00 @11 50	6 85 @11 50
Extra Genesee	7 30 @ 9 25	7 25 @ 9 25
Superfine Western	6 60 @ 6 70	6 30 @ 6 50
RYE FLOUR	5 50 @ 6 70	5 50 @ 6 50
CORN MEAL	5 30 @ 6 20	5 35 @ 6 25
WHEAT—All kinds of White	1 68 @ 1 88	1 73 @ 1 95
All kinds of Red	1 48 @ 1 68	1 56 @ 1 75
CORN—Yellow	1 22 @ 1 28	1 20 @ 1 24
Mixed	1 26 @ 1 27	1 27 @
OATS—Western	93 @ 93½	91 @ 93
State	91 @ 93	90 @ 92
RYE	1 28 @ 1 35	1 28 @ 1 33
BARLEY	1 30 @ 1 50	1 20 @ 1 45
COTTON—Middlings, per lb	82 @	81½@ 88
HOPS, crop of 1863, per lb	24 @ 33	25 @ 35
FEATHERS, Live Geese, p. lb	63 @ 65	63 @ 68
SEED—Clover, per lb	12½@ 13½	14 @ 11½
Timothy, per bushel	2 50 @ 3 00	3 00 @ 3 25
FLAX, per bushel	3 10 @ 3 30	3 25 @ 3 50
SUGAR—Brown, per lb	11¼@ 14½	11¾@ 15
MOLASSES, New-Orleans, p.gl	60 @ 70	65 @ 75
COFFEE, Rio, per lb	32½@ 33¼	33½@ 34
TOBACCO—Kentucky,&c,p.lb	14 @ 32	15 @ 35
Seed Leaf, per lb	15 @ 50	16 @ 50
WOOL—Domestic fleece, p. lb	72 @ 85	72½@ 85
Domestic, pulled, per lb	62½@ 78	65 @ 78
Wool, California, unwashed	25 @ 55	25 @ 55
TALLOW, per lb	12¼@ 12½	12½@ 12¾
OIL CAKE, per tun	46 50 @52 00	49 00 @55 00
PORK—Mess, per bbl	19 25 @23 50	21 00 @23 75
Prime, per bbl	15 25 @16 50	16 25 @18 25
BEEF—Plain mess	12 50 @14 50	12 25 @14 50
LARD, in bbls., per lb	12 @ 13	13 @ 14
BUTTER—Western, per lb	22 @ 28	24 @ 30
State, per lb	27 @ 33	28 @ 34
CHEESE	13 @ 16	13½@ 17
BEANS—per bushel	2 50 @ 2 90	2 60 @ 3 00
Broom Corn—per lb	8 @ 10	08 @ 10
EGGS—Fresh, per dozen	31 @ 32	28
Eggs, Limed, per doz	24 @ 26	22 @ 24
POULTRY—Fowls, per lb	8 @ 11	16 @ 18
Ducks, per lb	8 @ 14	18 @ 20
Geese, per lb	6 @ 9	10 @ 12
Turkeys, per lb	10 @ 16	16 @ 20
POTATOES—Mercers, p. bbl	2 25 @ 2 75	2 25 @ 2 50
Buckeyes per bbl	1 62 @ 1 75	1 75
Peach Blow, per bbl	2 00 @ 2 25	2 00 @ 2 25
Nova Scotia, per bushel	50 @ 60	50 @ 60
TURNIPS—Ruta baga, per bbl	@ 1 50	1 00 @ 1 25
ONIONS, Red & Yellow p. bbl.	5 50 @ 6 00	5 00
CABBAGES, per 100	8 00 @11 00	8 00 @11 00
DRIED APPLES, per lb	9 @ 10	08 @ 11
DRIED PEACHES, per lb	24 @ 25	24 @ 25
DRIED RASPBERRIES, per lb	23 @ 24	24 @ 26
APPLES, choice, per bbl	3 50 @ 5 00	3 00
Apples, mixed lots, per bbl	2 50 @ 3 00	2 50 @ 2 75
CRANBERRIES, per bbl	8 00 @ 8 30	7 00 @ 9 00
PIGEONS, Wild, per doz	90 @ 1 25	1 00 @ 1 37
PRAIRIE CHICKENS, per pair,	30 @ 55	44 @ 50

The tables given herewith exhibit in a condensed, but comprehensive form, the transactions in the Breadstuff markets. The most satisfactory feature, is the large volume of sales, and the fact that these sales, unlike those of the previous month, have been more largely for export and consumption than for mere speculation. The increased value of gold has kept up the export demand, and maintained prices more nearly uniform than they would otherwise have been, with the large supplies received by the railroads. As we have previously demonstrated, the high gold premium is directly beneficial to the agricultural interests, whatever its effects upon other classes....The Corn market, which has been excited all winter by the wild speculations of a few dealers, is now left more to its natural course. The leading operator went crazy Feb. 5th, and on the 8th commenced a stabbing onslaught upon his supposed enemies in the Corn Exchange. He is now indulging in mental speculations, in a Tombs cell. Government agents have bought corn pretty largely for Cavalry use. The new, or last crop is coming in more freely, and in better order than usual.... Oats have been quietly but largely purchased by Government agents....Provisions have been very active, especially hog products, pork and lard, which have advanced materially, as shown in the price table....Seeds are more sought after at firmer rates ...The accompanying Table shows the change in prices of the principal farm products.

The WOOL Market was dull early in February, but after the President's Proclamation calling for 500,000 troops to take the field very soon, the transactions in low grades of Foreign and Domestic, especially the former, became quite large. Still there is no prospect of a material rise in prices unless it be brought about by a rise in gold and exchange. The inquiry for medium and fine wools has been rather moderate, as holders have been asking prices above the limits of buyers, in view of the greatly reduced stocks of such goods available in this market. A number of auction sales held, and others announced in this city and in Boston, interfere with regular operations. The market is now strong for all descriptions, the principal holders claiming rather higher prices for the more desirable qualities.

The Live Stock Markets have been pretty active. Beef cattle have sold higher this week than at any previous date since 1855; the best premium animals as high as 15c.@16c. for the estimated dressed weight; other grades at 9½c. to 13c.; few animals so poor as not to bring 10c. These figures, however, are 1c. to 2c. above the general average for the month ...Hogs have advanced materially....Milch cows are just now in less demand, but the general prices are pretty well up.... Sheep have come in freely with an occasional exception, and have not advanced materially.

Advertisements.

Advertisements to be sure of insertion must be received **BEFORE** the **10th** of the preceding month.

N. B.—*No Advertisement of Patent Medicines or secret remedies desired. Parties unknown to the Editors personally or by reputation, are requested to furnish good references. We desire to be sure that advertisers will do what they promise to do. By living up to these requirements, we hope to make the advertising pages valuable not only to the readers but to the advertisers themselves.*

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German Edition alone, *Ten cents* per line; $10 per column.

To Parents and Guardians.

Wanted, a number of well-trained, manly, and ambitious lads, 14 to 16 years old, from good families, willing to be bound for a series of years, with the consent of their parents or guardians (with whom they must reside), to LEARN or to PERFECT themselves in the arts of TYPE SETTING, PROOF-READING, PRESSWORK, STEREOTYPING, or BOOK-BINDING, under the best auspices, and on the most liberal terms. A few GERMAN boys and girls can be employed in some of the departments.

JOHN A. GRAY & GREEN,
16 and 18 Jacob street, New-York.

WANTED.—Five or Six Nursery Hands. Men and Boys that have had some experience in the business. Address, with particulars,
JOHN WAMPLER, Dayton, Ohio.

MICHIGAN STATE AGRICULTURAL COLLEGE.

The term commences Feb. 25. This Institution is supported by the State, has a full corps of professors, a farm, gardens, fine stock, an excellent chemical laboratory, &c. Students are received for a full course of four years, or to a select course of any length. The course of study is very full, embracing all the branches of a good English and scientific education. Students are required to labor three hours each day, and a moderate compensation is allowed. Tuition free to students from the State; to others, $20 per annum. Board is furnished at cost. For further particulars, address
T. C. ABBOT, President, Lansing, Michigan.

TO MANUFACTURERS.

The subscribers offer for sale at very low rates, to manufacturers, several fine pieces of land within a few minutes walk of the Railroad depot at Flushing, Long Island. Flushing is half an hour distant from New-York, by railroad running ten times each day, and offers unusual facilities for manufacturing purposes. Apply to
PARSONS & CO., Flushing, L. I.

Prairie View Farm For Sale.

For sale, a beautiful farm of 160 acres, situated near the Fox River in the town of Oswego, Kendall Co., Illinois, 3½ miles from the station on the Chicago, Burlington and Quincy R. R., 2½ from the village of Oswego and 6 from the city of Oswego and 6 from the city of Aurora. The improvements are all permanent and particularly well adapted to stock purposes. A well furnished house, and large barn with stabling for 50 cattle. A thrifty Apple orchard, Peach, Plum, Pear and Cherry trees, both dwarf and standard: also all the small fruits with a good variety of grapes, most of the above in bearing. A fine Durham stock, horses, tools and household furniture will be sold with the farm if desired. For further particulars address the subscriber at Oswego, Ill.

P. PORTER WIGGINS.

FARM FOR SALE.

Near the village of Flushing, which is within half an hour of New-York, by railroad, ten times a day. There are over forty acres of land for tillage and fifteen acres of muck, 5 feet deep. Fine supply of water for cranberries, and water cresses. Three acres of Delaware Vineyard, two years old, and two acres more trenched and prepared for planting. A beautiful view, high land, and every way desirable for building. Apply to S. B. PARSONS,
Flushing, L. I.

MARYLAND FARMS.

We have for sale over 200 farms in this State, of as beautiful and productive land as ever the sun shone upon, having access by Rail Roads, Steamboats and Turnpikes. These Farms in many instances can be bought for less than the Improvements upon them cost, in consequence of the change from slave to free labor.

As Surveyors we have an intimate knowledge of the lands of this State. Enquiries by letter will be promptly answered.
R. W. TEMPLEMAN & CO.,
Real Estate Brokers, Baltimore City, Md.

Two Houses for Sale at Flushing, L. I.

In the most desirable part of Flushing, and surrounded by evergreen and deciduous trees. Parlor, dining room and library in both, eight bed-rooms in one, and seven in the other. Water fixtures and every convenience in the house that is finished. The other in course of erection. Flushing is half an hour from New-York by railroad, ten times a day.
Apply to S. B. PARSONS, Flushing.

Wanted Immediately,

One Hundred Men

to act as Agents for the sale of HEADLEY'S HISTORY OF THE GREAT REBELLION, the most attractive, popular and salable Work on the present War, as the extraordinary large number already sold, abundantly proves. The Author is too well known and appreciated to need any recommendations, the sale of his Works having reached a far greater number than any other Authors in this country. A fine opportunity is here presented for Teachers, Students, Farmers, and all intelligent persons to make money. For particulars apply to or address
HURLBUT, WILLIAMS & CO.,
148 Asylum St., Hartford, Conn.

Farmers, Countrymen and Country Merchants

Can send their

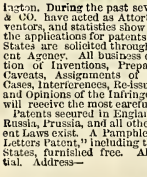
Butter, Cheese, Eggs, Lard, Tallow, Beans, Hops, Flax, Cotton, Flour, Grain, Meal, Green and Dried Fruits, Furs, Skins, Poultry, Game, Provisions, Seeds, Sorghum, Wool, Potash, Oils, and other produce to

JOSIAH CARPENTER,

COMMISSION MERCHANT,

32 Jay-street, New-York.

To be sold at the highest market price. Every shipper to him will receive his valuable Weekly Price Current of the New-York Market free.



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Established in 1846.

MESSRS. MUNN & CO., Editors of the *Scientific American*, SOLICITORS OF AMERICAN & EUROPEAN PATENTS,

With a Branch Office at Washington. During the past seventeen years MESSRS. MUNN & CO. have acted as Attorneys for more than 20,000 inventors, and statistics show that nearly ONE-THIRD of all the applications for patents annually made in the United States are solicited through the Scientific American Patent Agency. All business connected with the Examination of Inventions, Preparing Specifications, Drawings, Caveats, Assignments of Patents, Prosecuting Rejected Cases, Interferences, Re-issues and Extensions of Patents, and Opinions of the Infringement and Validity of Patents, will receive the most careful attention.

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MUNN & CO.,
No. 37 PARK ROW, NEW YORK.

Connecticut Seed Leaf Tobacco Seed.

Be Sure and get the Best.

The Subscriber offers for sale a very clean lot of the above, raised expressly for him, by one of the most successful cultivators in the valley of the Connecticut. Packets containing ONE OUNCE, with FULL DIRECTIONS FOR CULTURE, will be mailed post-paid, to any address in the Union, upon receipt of 50 cents. Prices for larger quantities will be given upon application. Address B. K. BLISS,
Springfield, Mass.

GARDEN SEEDS,

BRIDGEMAN'S

Annual Priced List of

Vegetable Seeds, &c.,

is ready for delivery.

ALSO

His Descriptive Catalogue of

FLOWER SEEDS,

including FLORAL NOVELTIES for 1864.

ALFRED BRIDGEMAN,
876 Broadway, New-York City.

SMITH'S SEED STORE.

ESTABLISHED IN 1822.

FIELD, GARDEN, GRASS and FLOWER SEEDS in large and choice variety and of latest growth: also FRUIT and ORNAMENTAL TREES of all kinds. A fine assortment of Garden Tools, and Cutlery constantly on hand, at **No. 65 Liberty-St.**, near the P. O.

Garden and Field Seeds.

My Wholesale and Retail Price Lists of Seeds are now ready—will be mailed to applicants
JOHN VANDERBILT
23 Fulton-st., New-York.

The Yokohama Squash.

The subscriber offers for sale seeds of this new Squash, raised from those sent to him from Japan, by his brother Mr. Thomas Hogg. It is without doubt one of the best squashes grown, and is a great acquisition to our list of vegetables as it combines more good qualities than any other squash grown in this country. The surface is strongly ribbed, the skin warty, in its early stages of growth, of a pale green color, becoming of a very deep green when more advanced, and when fully ripe, is of a deep, dull orange color.

It is of the Turban class, measures from four to six inches thick, and from six to twelve inches across, and weighs from six to twelve pounds. The flesh is of a deep orange color, very finely flavored, sweet and dry, very fine grained and **without any fibre.** It is excellent stewed, and when baked it much resembles a sweet potato in flesh and flavor, and is superior to any pumpkin for pies. It is a robust and vigorous grower, running very freely, having the peculiarity of rooting at the joints like a Verbena, and is a very prolific bearer. It comes early into bearing, and is excellent for cooking, when no larger than an ordinary bush Squash, so that a continuous supply for a family during the whole season can be had by growing this variety only. It keeps until February or March.

The seeds are warranted pure, being grown by myself. They will be put up in packets containing ten seeds each, at the price of twenty-five cents per packet, sent to any address postage free.
JAMES HOGG,
Yorkville, New York City.

Packets of seeds can also be obtained of H. B. Lane, 151 Nassau-st. J. M. Thorburn & Co., Fleming & Davidson, Alfred Bridgeman and John Vanderbilt, New-York City.—Washburn & Curtis, Boston.—James J. H. Gregory, Marblehead, Mass.—B. K. Bliss, Springfield, Mass.—R. Buist & Son, H. A. Dreer, and D. Landreth & Son., Philadelphia.—John Saul, Washington, D. C.—James Vick, Rochester, N. Y., and William Thorburn, Albany, N. Y.

SPECIAL NOTICE.

REID'S NURSERIES,

Elizabeth, New Jersey.

100,000 Fruit Trees assorted varieties.
10,000 Pyrus Japonica, Strong, $12 to $15 per 100.
6,000 Larch, fine, 6 to 8 feet, $12 per 100.
6,000 Sugar Maples 5 to 6 feet, $6 per 100; $50 per 1,000.
25,000 Irish and Swedish Junipers from 1 to 4 feet at $5 to $50 per 100.

Also a large stock of Spireas, Deutzias, Althæas, Snowballs, &c., &c., at low rates.
DAVID D. BUCHANAN, Superintendent.

GLADIOLUS.

NEW CATALOGUE OF OVER

100 Splendid Varieties

Of this popular bulb is now ready for distribution.
Having a large stock to dispose of, we now offer them at

PRICES REDUCED

from former years.
Priced Catalogues sent to all applicants enclosing a stamp,
ANDREW BRIDGEMAN,
878 Broadway, New-York.

IONA VINES.

The New Seedling IONA is the only native grape of large size that combines all of the excellences of the celebrated Frontignans with exceeding hardiness in our climate; transparent wine color; tender and equally so at the center; rich, vinous, refreshing and very spirited. It has a pure Muscat flavor and makes raisins strongly resembling those from the Muscat of Alexandria. It ripens very early and is unsurpassed in hardiness and productiveness. For full description see Descriptive Catalogue which abounds in information concerning grapes.

It is sent for ten cents and contains among other important articles the Lecture by P. B. Mead on the conditions of success in grape culture, worth many times the price for the whole, and a chapter on wines and wine-making of much interest and value to all who desire to know what good wines are, and how to make them. C. W. GRANT,
Iona, near Peekskill, Westchester Co., N. Y.

TO PLANTERS

OF

TREES, SHRUBS, AND VINES.

PARSONS & CO.,

offer their fine stock of

Apples, Plums,
Pears, Standard, Cherries,
Pears, Dwarf, Peaches,

and all other sorts of

FRUIT TREES

at very low rates.

HARDY GRAPE VINES.

OF

Iona, Hartford Prolific,
Concord, Rogers' Hybrids,

and many other sorts.

Vines for House Culture.

1 year, $20 per 100—2 years, $30 per 100.
These are of very fine quality.

They have at **Low Figures,** a very large stock, from which to select handsome specimens, of

Street and Lawn Trees,

of symmetrical form and well rooted.

Flowering Shrubs in great variety.

Roses on their own roots, and in quantity.

Exotic Plants for Window Gardens and Hanging Baskets, of the finest sorts.

They invite examination of their Grounds and Green-Houses.

For Catalogues apply by mail, at
Flushing, near New-York.

Seeds! Seeds! Seeds!

J. M. THORBURN & CO. offer,

IPOMŒA COCCINEA (advertised erroneously as "Star Ipomea) per package 5c., or at $2 per pound to the "Trade."

ALSO

TWENTY NINE VARIETIES OF ENTIRELY NEW FLOWER SEEDS for which see our FLOWER SEED CATALOGUE which we mail to all applicants WITHOUT A STAMP.

By MAIL on receipt of the Cash:

CONNECTICUT SEED LEAF TOBACCO the true Broad Leaf Variety	per pound $1,	per oz. 30c.
GENUINE HAVANA TOBACCO	do. $6,	do. 50c.
WHITE JAPAN MELON	per packet 10c,	do. 50c.
EARLY PARIS CAULIFLOWER	do.	$1
NONPAREIL do, (finest in cultivation)	do.	$1
NEW VALENCIA CLUSTER TOMATO	do.	40c.
LESTER'S PERFECTED do,	do.	30c.
FRENCH UPRIGHT do,	per packet	10c.
MEAD'S IMPROVED WHITE SOLID CELERY	per oz.	40c.
ENGLISH FRAME CUCUMBERS 12 Varieties each per pack.		25c.
BUTTER (YELLOW HEAD) LETTUCE	per oz.	25c.

ALSO

Every Standard and Improved Variety of VEGETABLE and AGRICULTURAL SEEDS for which see our VEGETABLE and AGRICULTURAL SEED CATALOGUE.

Tree and Shrub SEED Catalogue just published.
J. M. THORBURN & CO.,
15 John Street, New-York.

Vick's Illustrated Catalogue of Seeds, and

Guide to the Flower Garden for 1864.

MY NEW CATALOGUE AND FLORAL GUIDE is now published and ready to send out. It contains accurate descriptions of the leading Floral Treasures of the world, with FULL and plain directions for SOWING SEED, TRANSPLANTING and GENERAL CULTURE. Also a list of Choice Seeds for the **VEGETABLE GARDEN,** with necessary instructions for PLANTING and CULTURE.

My NEW CATALOGUE and FLORAL GUIDE is a beautiful work of FIFTY large pages, illustrated with TWENTY-FIVE fine engravings and one splendid COLORED PLATE of the DOUBLE ZINNIA. It will be sent, postage paid, to all who apply inclosing ten cents.

Address JAMES VICK, Rochester, N. Y.

New Brunswick Nurseries,

(NEW-JERSEY.)

EDWIN ALLEN offers a full assortment of FRUIT, and ORNAMENTAL trees FLOWERING SHRUBS, &c.
PEAR, Standard and Dwarf, very fine.
PLUM and CHERRY, free from all stings and excrescences.
GRAPES, Delaware, Concord, Hartford Prolific &c.
STRAWBERRY, Triomphe de Gand, Bartlett and others
Catawissa Raspberry—Victoria Rhubarb, &c., &c.

LOVERS OF FLOWERS, ATTENTION!

CUSTOMERS BADLY SWINDLED!

Quantrell Conquered by Flowers, and a nice Home saved!

My Seeds Too Good, and a Lawsuit Threatened!

Read How Customers are Treated by JAMES VICK, Rochester, New-York, and send for a fine Catalogue of fifty pages, with twenty-five Engravings, and one Colored Plate.

EXTRACTS FROM LETTERS FROM CUSTOMERS.

From SARAH J. GRIFFITH, Batcsville, Noble Co., Ohio, Sept. 2, 1863:

Your Flower Seeds I got this Summer gave good satisfaction. The five varieties of Pinks were beautiful, and admired by all.

From WILLIAM LUCAS, Normandy, St. Louis Co., Mo., Aug. 28, 1863:

Be good enough to mail me your next Catalogue as soon as published. The flower Seeds you sent me this Spring, have turned out beyond all expectation, especially the Asters; they were the admiration of everyone. I never saw finer in my life, either in this country or in Europe. The Double Zinnias turned out splendidly—about eight double flowers out of ten seeds, and they were as double and fine as any dahlia.

From Mrs. R. U. SHERMAN, N. Hartford, Oneida Co., N. Y., Sept. 4, 1863:

The Asters from the seeds purchased of you last Spring, have been the wonder and admiration of all our acquaintances, far and near. The pleasure we have derived in bestowing the beautiful bouquets made from them on numberless friends, has repaid us fifty fold for the small expense and care they cost.

From Mrs. Dr. FOSTER, Clifton Springs, N. Y., Sept. 2, 1863:

The Aster Seed you sent me when Mr. Foster procured his Vegetable Seeds, have produced flowers so beautiful and perfect in color, size, and every development, that I hasten to thank you for the great pleasure they afford us hourly, and to say I am sure I could procure you many customers if you would send me some Catalogues.

From GEO. E. JENNINGS, Waupun, Wisconsin, Sept. 1863:

The seeds had of you last Spring proved very satisfactory. My Asters now are splendid. I have them *five and a quarter inches in diameter.*

From W. P. HAVENS, Corning, N. Y., Oct. 11, 1863:

I obtained a package of Double Zinnia Seeds of you this Spring, and sowed only a part. I think every seed planted grew. A few turned out single and a few semi-double. I had one which produced nearly or quite twenty flowers, some of them as large as a good sized dahlia; and more compact, and more petals in the bloom, by at least fifty per cent., than shown in the engraving in your Catalogue.

From B. W. STEERE, Adrian, Michigan, Oct. 12, 1863:

The Flower Seeds obtained from you this Spring produced fine results. The Asters took a first premium, and I think the Double Zinnias would, if I could have preserved them from au early frost.

From Mrs. MARY E. MORTON, Battle Creek, Mich., Oct. 17, 1863:

Send me a Seed Catalogue, as soon as published in the Spring. My Asters from your seed were splendid.

From ELIZABETH B. SEELYE, Bethel, Conn., Sept. 21, 1863:

The Double Zinnias I had of you are charming. The flowers are very full, and double. I counted twenty-one rows of petals on one flower. One plant has borne one hundred blossoms. I am impatient to see your new Flower Catalogue.

From MARIEN M. GLENN, Nobletown, Pa., Oct., 1863:

The Flower Seeds I obtained from you last Spring all came up and gave me and others great satisfaction.

From ROBERT J. HARRIS, Cincinnati, Ohio, Oct. 15, 1863:

The Seeds I ordered of you last Spring came safely to hand and gave great satisfaction.

From JANE W. CURTISS, Ira, Rutland Co., Vermont:

The Double Zinnias from the seed which I ordered of you last Spring, were splendid.

From Mrs. WM. M. HARRISON, Minneapolis, Minnesota, Sept. 10, 1863:

Let me say that your Seeds give universal satisfaction to myself and friends. We have never had any, either Flower or Vegetable Seeds, to equal them.

From Mrs. C. G. WOODFORD, Candor, N. Y., Sept. 22, 1863:

The Flower Seeds which I purchased of you in the Spring all did nicely. My Zinnias did splendidly—about half of them very large and double. They have been in blossom a long time, and are now as pretty as ever.

From CAROLINE F. CHADWICK, Middletown, Conn., Sept. 17, 1863:

The Seeds you sent me this Spring received the admiration of every one. The Zinnias and Asters are most beautiful.

From C. WHITE, Edwardsburgh, Canada West, Sept. 23, 1863:

The seeds from you this Spring gave entire satisfaction.

From CHARLES T. SIMPSON, Tiskilwa, Bureau Co. Illinois, Sept. 28, 1863:

I bought several packages of Flower Seeds of you this Spring. All grew, and turned out true to name. The Double Zinnias were splendid, and so were the Asters.

From THOMAS BULLOCK, Great Salt Lake City, Utah, Sept. 3, 1863:

The Flower seeds I obtained of you this Spring produced the most beautiful flowers, and I am much gratified.

From G. B. WHITE, Union Springs, N. Y., Sept. 14, 1863:

I had the pleasure of planting and taking care of the seeds you sent me, through the season. They came up to the fullest expectation, and have made a good display. I have had charge of Mrs. J. J. Thomas' flower department, and the seeds you sent him did finely, and made a most magnificent show of flowers.

From Miss L. M. MAYNARD, Greenwich Station, Huron Co., Ohio, Sept. 9, 1863:

I take pleasure in saying that the seeds I ordered of you have richly repaid me for my labor. The Asters are perfect beauties, and are admired by every one that sees them.

From Mrs. C. L. MABBETT, Mechanicsville, Saratoga Co., N. Y., Nov. 23, 1863:

I was well pleased with the seeds you sent me last Spring.

From ROYAL E. BARRY, Cambridgeport, Vt., Dec. 27, 1863:

The collection of flower seeds I purchased of you last Spring were very fine. The Asters and Double Zinnias far exceeded my expectation.

Quantrell, the Rebel Raider, Conquered!

From GEORGE FORD, Lawrence, Kansas, Jan. 4, 1864:

Please send me your Catalogue for 1864. The flower seeds we purchased from you last Spring came up remarkably well, much better than those that came from ——. The Asters were very fine, some seventy plants being in full bloom at the time of the Quantrell Raid, and made, together with the Snap Dragons, Dianthus Heddewigs, Phloxes, Petunias and other fine varieties, a very gay and beautiful appearance, and were the means, providentially, of saving our house from pillage and destruction. Quantrell, with a dozen of his gang, came to destroy the place, but Quantrell said to my wife it was too pretty to burn, and should be saved. Thus you see that the beauty of cultivated nature softened the heart of a notorious bushwhacker and cold-blooded murderer. We shall cultivate flowers as long as we remember this horrible rebellion.

From the Vindicator, Bruce, Canada West, Sept. 24, 1863:

We got seeds from Mr. VICK last Spring, and they were excellent; our Asters, grown from his seed, were about as fine as we think Asters could be.

From the Summit County Beacon, Ohio:

We have for several years procured our Seeds from Mr. VICK, and can only say, that we have found the seeds imported by him more sure to germinate than any others that we have ever used.

From the Sunday School Advocate, N. Y. Dec. 26, 1863—a dialogue between the Editor and his friend "FORESTER":

"Mr. Editor," says Mr. Forrester, "I have just received a beautiful gift from your old friend, JAMES VICK, Esq., of Rochester."

A present, hey? Pray, what is it, Mr. Forrester?

"A box of Hyacinth and Narcissus bulbs, sir. Choice kinds, too."

That's just like friend VICK. He sent me a lot of flower seeds last Spring, from which I grew such splendid German asters, petunias, pinks, etc., as are rarely seen. Everybody admired them. I advise everybody who wants good flower seed to try Mr. VICK. Not only flower seeds as well as my seeds, Mr. Forrester, you will have the finest hyacinths in your neighborhood.

From the "Rural New Yorker," Oct. 24, 1863:

Badly Swindled—Read.

EDS. RURAL:—James VICK advertises in the Rural. Well, so far, that is a good recommendation. He desires people to send for his catalogues of seeds, bulbs or tulips, crocusses, hyacinths, lilies, &c., &c. Well, people ought to send for it, out of curiosity, if nothing more. Yes, in spite of all the caution we hear almost daily against Eastern nurseries and seedsmen,—especially from Western dealers,—I did send for it, and worse than that, forfeit my reputation as the only school in which fools can learn,"—I sent for bulbs, and induced several friends to do the same! To-day the bulbs came; they did not come per "ready" without waiting and returns, but they really came—and proved to be the finest bulbs we ever saw, all in good order, "baker's dozen," and sent by mail free of postage! "What's what's the matter," and what I have to complain of, is that bad swindle which people inflict upon themselves by allowing their suspicions to cheat them out of many luxuries which they might otherwise enjoy.

Who does not love flowers! And how few persons have gardens from which you might take even a decent bouquet! But there are some would-be florists who love flowers just as some good, dear, pious, stingy people love the Lord,—with all the heart, but none of the purse. They "almost worship flowers," but are appalled if you chance to suggest buying them. I ought to add, however, that I have called on the others who also sent for bulbs, and they were all disappointed—all nicer than they expected. Too bad to be martyrs just this time.

L. G. BEDELL.

Crown Point, Ind., Oct. 14, 1863.

A Good Chance for a Lawsuit.

The following is a part of a facetious letter, published in the Rural New Yorker, January 2, 1864:

MR. EDITOR:—Before commencing an action against you for damages, I thought I would write to you, and see if you are willing to make me such reasonable offer for certain "actions and things" which this individual has suffered at the hands of two firms of RURAL advertisers. For, have you not, at divers times, promised to protect the subscribers of the Rural New Yorker against impositious of designing men?

Now, Mr. Editor, there is one Rochester man that you have advertised extensively, sirnamed VICK: I suppose his father must have called him JAMES, as I see he appends something of the kind to his other name. I put money in a letter and sent it to him. What do you suppose he sent me in return? Seed? yes, cabbage seed, tomato seed, flower seed. Well, that is not what I complain of. But of this:—the cabbage seed all grew! Well, anybody knows that was not right that ever bought a paper at a "store." You may feed young birds "with chaff," but not one who has bought cabbage seed for years, and never had a dozen plants to a paper grow. Then, I did not all the tomatoes grow "smooth," when every novice knows that they ought to be rough like a wash board. It won't answer, Mr. Editor, to have them "smooth." If you do, their skins will "peel." You know, too, that flower seeds have no business to blow double, like those flowers that Mr. VICK sent us. We know better, for have not our mothers raised Zinnias and such things, from our boyhood up, and who ever saw double ones? It is clearly not legitimate. It is time a stop is put to such things!

Finally, Mr. Editor, if you are willing to "chalk up," and do the fair thing, I will be reasonable in my bill of damages. But, if you compel us to "go to law," you will be made to suffer considerable. "If not more."

L. L. FAIRCHILD.

Rolling Plains, Wis., 1863.

From the Country Gentleman:

FLOWER GARDEN OF JAMES VICK.—Among the most enthusiastic admirers and successful cultivators of fine flowers is JAMES VICK, of Rochester, horticultural Editor of the Rural New Yorker, and the proprietor of a seed store in that city. During a recent visit to his garden, a number of beautiful varieties were observed. His collection of Asters in full bloom was extensive, and exhibited many very fine specimens of all colors. He annually imports these from Europe, where the seeds are obtained mostly from plants grown in pots, good seed of the fine double sorts being rarely produced in this country. There was a collection of new Double Zinnias, but as these have a tendency to run back, a large share, or about one-half of the poorer ones are pulled up and thrown out, leaving only the finest for seed. This plant is already beginning to run to varieties, and among the selected specimens were observed various shades, with light red, scarlet, and crimson, the flowers presenting different forms and sizes. A considerable collection of new Japan Pinks were in bloom, with their rich, coarsely cut flowers, and the few double Portulacas were remarkably beautiful.

A package of seeds furnished us last spring by the proprietor of this flower garden, now ornamenots several large flower beds, and exhibits many beautiful plants of the older, as well as the newer sorts, and on which we may furnish some particular notes in the future.

CATALOGUES sent, postage paid, to all who apply, enclosing ten cents.

JAMES VICK,
Rochester, N. Y.

☞ See description of Catalogue in another column.

Rare and Choice Flower Seeds.

AND NOVELTIES FOR 1864.

HOVEY & CO., BOSTON, Mass.

Have now ready their unrivalled collection of German, French, Belgian, and American Seeds, comprising all the desirable novelties. The assortment includes all the most beautiful varieties of

Balsams, Stocks, Portulaccas, Larkspurs, Petunias, Verbenas, Zinnias, &c., &c.,

And all the best Florist's Flowers, viz., **Cinerarias, Pansies, Pelargoniums, Carnations, Calceolarias, &c., &c.**

EXTRA PRIZE ASTER SEED.

We offer our unequalled collection of **French Asters**, in all the varieties of **Pivony, Pompone, Pyramidal**, &c., of our own raising, having been make a specialty for more than 20 years, and our flowers have been awarded prizes by the Mass. Hort. Society as follows:

FIRST PRIZE.—1841, 42, 43, 44, 46, 47, 48, 49, 51, 52, 53, 56, 57, 60, 61, 62, and 63. Second Prize, 1846, 56, and 59.

16 varieties in separate packets $1.50. 12 var. $1.25. 8 var. $1.

Descriptive Catalogue of Seeds, Fruit Trees, Greenhouse Plants, &c., forwarded to all applicants.

Rare and Beautiful Flowers.

Splendid Novelties.

B. K. BLISS, Seedsman and Florist,

Springfield, Mass.,

Would inform his friends and patrons that the supplement to the **Tenth Edition** of his Catalogue for 1863–4, will be issued early in February, and mailed to all applicants upon receipt of a 3 cent stamp. It will contain a list of all the Novelties of the past season both of European and home production, with many other rare and desirable seeds, well deserving the attention of all lovers of Flowers. Particular attention is invited to the following choice assortments of

French and German Flower Seeds,

saved by the most successful European cultivators, containing only the most beautiful varieties in packages, in which are enclosed four, six, ten or more separate papers, each containing seeds of a different color or variety of the same plant.

French and German Asters, Rose and Camellia flowered Balsams, German Ten Week, Intermediate and Brompton Stocks, Larkspur, Alpine Plants, Dianthus, Everlasting Flowers, Hollyhocks, Ipomea, Lavatera, Linums, Marvel of Peru, Nemophila, Ornamental Grasses, Ornamental Gourds, Portulacea, Petunias, Schizanthus, Pansies, Scabiosa, Tropœolum, Wallflowers, &c., &c.

Among the improved varieties of Florists' Flowers, the quality of the following cannot be surpassed, Auricula, Cineraria, Calceolaria, Cockscomb, Carnation and Picotee Pinks, Dahlias, Geraniums, Gladiolus, Ixia, Mimulus, English and New Fancy Pansies, Polyanthus, Petunias, Chinese Primrose, Stocks, Perfection and Auricula flowered Sweet Williams, &c., &c.

All of the seeds named in the Catalogue will be mailed post-paid to any address in the loyal States, upon receipt of the price affixed.

Those who have not a copy of the Catalogue will be supplied with both Catalogue and Supplement upon receipt of two 3-cent stamps. Address

B. K. BLISS,
Springfield, Mass.

BRIDGEMAN'S
DESCRIPTIVE CATALOGUE
OF
BEDDING PLANTS,

Embracing many NEW and BEAUTIFUL Varieties, as well as a

SELECT LIST OF ROSES.

Now ready for Distribution.

ANDREW BRIDGEMAN
878 Broadway, New-York.

J. KNOX
Pittsburgh, Pa.

Our New Catalogue of

SMALL FRUITS,

with prices for Spring of 1864, and **Dr. John A. Warder's** Report to the Cincinnati Horticultural Society, of a visit to our grounds, giving description of varieties of **GRAPES and STRAWBERRIES,** mode of culture, &c., are now ready, and will be sent to all applicants enclosing stamp.

J. KNOX,
Box 155, Pittsburgh, Pa.

THE
Great Buffalo Strawberry,
SMITH'S BUFFALO SEEDLING.

Originated in 1857, by Rev. N. S. Smith, on his Grounds in Buffalo, New-York.

Of all the varieties of the Strawberry, that have been introduced, each kind has been found wanting in one or more important quality, so that it is now admitted by all fruit growers that the GREAT DESIDERATUM in the strawberry world, is a fruit, in which are COMBINED all the essential qualities of the most popular varieties.

The subscribers take great pleasure in announcing to the public that such a Strawberry has at length been produced.

Having thoroughly tested it for five years, we are now able to make the announcement, that the "Buffalo" COMBINES IN ITSELF AND DISTINCTLY AND PERFECTLY DEVELOPS EVERY ESSENTIAL QUALITY THAT CAN BE FOUND IN ALL THE BEST VARIETIES; in fact, it is not deficient in anything essential to a superior and universally popular Strawberry.

Its great productiveness, size, flavor and firmness, with many other remarkable qualities, make it the best Strawberry ever introduced, and we CHALLENGE THE WORLD to produce its equal.

Extract from testimonial of BENJ. HODGE, Esq., an old nurseryman and one of the largest fruit growers in the State, and who has for two years personally examined our beds while in bearing:

"ITS COMBINATION OF SUPERIOR QUALITIES renders the 'Buffalo Seedling,' in my opinion, the BEST STRAWBERRY THAT HAS YET BEEN INTRODUCED TO THE AMERICAN PUBLIC."

BENJAMIN HODGE.

From Hon. T. C. PETEES, a popular Agriculturist and Amateur:

"It's GREAT PRODUCTIVENESS, SIZE and FIRMNESS OF FLESH and its SWEET, DELICIOUS FLAVOR make it an unrivalled Berry, both for Market and Amateurs. I think it will prove the best variety of Strawberry yet brought to public notice."

T. C. PETERS.

Lithographs of fruit and Descriptive Circulars containing testimonials of the highest character sent to all who request them. We are prepared to fill all orders for plants the coming spring at the following prices:

$3.00 for 20 plants.
6.00 " 50 do.
10.00 " 100 do.—TERMS CASH.

Packages of 100 plants or less, sent by mail free.

Agents and Agricultural Houses that purchase to sell again will be allowed a liberal discount.

SMITH & BRYANT,
N. S. SMITH, Box 2750 P. O., Buffalo, N. Y.
ABNER H. BRYANT.
BUFFALO, Oct., 1863.

Strawberry Plants

Of best quality of all the leading varieties, for Spring planting at reduced prices. Wholesale and retail. Order early. New price list ready. E. WILLIAMS, Mont Clair, N. J.

TWENTY-SEVEN acres of Strawberries. Very Choice Plants for sale low in the Spring. Address A. M. PURDY,
South Bend, Indiana.

CHICORY SEED.

THE GREAT SUBSTITUTE FOR COFFEE.

A supply of the genuine article just received by the Subscriber, and will be mailed post-paid to any address, upon receipt of the price affixed. Packets containing 1 ounce, 15 cents, 8 ounces, 60 cents, 1 pound $1.00.

Directions for culture accompany each package.
B. K. BLISS, Springfield, Mass.

Flower Seeds, Delaware Grape

VINES, flowering plants, &c., in variety. Sent by mail, catalogues gratis. Address
H. B. LUM, Sandusky, Ohio.

IT IS SO.—Mr. Van Auken, of Amsterdam, N. Y., is Patentee of the very **best** Washing and Wringing Machine in this broad land.
Send for Circular and Machines.

GREAT DISCOVERY! **USEFUL and VALUABLE DISCOVERY!**

HILTON'S
INSOLUBLE CEMENT!

Applicable to the useful Arts. Is of more general practical utility than any invention now before the public. It has been thoroughly tested during the last two years by practical men, and pronounced by all to

Be Superior to any
Adhesive Preparation known.

A new thing. **Hilton's Insoluble Cement** Is a new thing, and the result of years of study; its combination is on

Its Combination. **SCIENTIFIC PRINCIPLES,** And under no circumstances or change of temperature, will it become corrupt or emit any offensive smell.

Boot and Shoe Manufacturers. **Boot and Shoe** Manufacturers, using Machines, will find it the best article known for Cementing the Channels, as it works without delay, is not affected by any change of temperature.

Jewellers. **Jewellers** will find it sufficiently adhesive for their use, as has been proved.

Families. **It is especially adapted to Leather,** and we claim as an especial merit, that it sticks patches and Linings to Boots and Shoes sufficiently strong without stitching.

It is a Liquid. IT IS THE ONLY
LIQUID CEMENT
Extant, that is a sure thing for mending
Furniture, Crockery, Toys, Bone, Ivory, and articles of Household use.

Remember. **REMEMBER**
Hilton's Insoluble Cement
Is in liquid form and as easily applied as paste.
Hilton's Insoluble Cement
Is insoluble in water or oil.
Hilton's Insoluble Cement
Adheres to oily substances.

Finis. Supplied in Family or Manufacturers' Packages from 2 ounces to 100 lbs.
HILTON BROS. & CO.,
PROPRIETORS,
PROVIDENCE, R. I.

Patent Auto-Propelling

CANTERING HORSES.

Propelled by the weight of the rider. Sizes for Children from two to eighteen years old, $8 to $22 each. Extra finish, $16 to $33 each.—For adults, from $30 to $70 each.

They are worth the Money,

and where there are children, they pay a

Daily dividend of ten per cent.

in health and amusement.

There is no such thing as a child getting tired of it, for the horse is always ready to **GO.** Young folks and old folks are invited to take a **RIDE** at this free school of Equestrianism, or to send stamp for circular, giving full particulars and prices.

"Wonder sparkles in the darkey's eyes,
When "missus" to the distant schoolhouse flies."

See Editorial notice in *American Agriculturist* of January 1864, page 7.

STEPHEN W. SMITH,
498 Broadway, New-York.

The NONPAREIL WASHING MACHINE

Is the only entirely reliable machine in use.

It has been before the public nearly three years, and has not in any instance failed to give satisfaction.

It saves two-thirds the labor and time required in hand washing.

It is a squeezing machine, and will not injure the finest clothing.

A girl of fourteen years can operate it.

It will not get out of order.

It is recommended by Mr. Judd, the proprietor fo this Journal.

Prices: No. 1, $12. No. 2, $16. No. 3, $20

Send for free Circular to
OAKLEY & KEATING, 73 South-st., New-York.

PUTNAM CLOTHES WRINGER.

The ONLY reliable Self-Adjusting Wringer.
No wood-work to swell or split.
No thumb-screws to get out of order,

WARRANTED WITH OR WITHOUT COG-WHEELS.

It took the FIRST PREMIUM at Fifty-seven State and County Fairs in 1863, and is, without an exception, the best Wringer ever made.

Instead of believing the statements of parties interested in the sale of other Wringers,

TRY IT, AND JUDGE FOR YOURSELF.

Test it THOROUGHLY with ANY and ALL others, and if not entirely satisfactory, return it.

It will wring any thing from a thread to a bed quilt without alteration.

Patented in the United States, England, Canada, and Australia. Agents wanted in every town.

Prices: No. 2, $5.50; No. 1, $6; No. A, $8.

Testimony of Messrs. Jno. W. Wheeler, of Cleveland, Ohio, and Jno. C. Lefferts, of New-York.

PUTNAM MFG. CO.:

GENTLEMEN.—I know from practical experience that iron well galvanized with zinc will not oxidize or rust one particle. I can safely say, after several years experience in the manufacture of chain, for chain-pump and water-drawers, in which I have tested the affinity of iron and zinc, that if the process be conducted properly, it is a perfect weld of the two.

Nearly one year ago my family commenced using one of your Wringers. It now performs all of its functions as well as it did the first time it was used, and has become an indispensable article with us. I have closely observed several other kinds of clothes-wringers, the modus operandi being different, trying to produce the same results as the Putnam Wringer, but in my judgment they have failed. The Putnam Wringer is as near perfect as possible, and I can cheerfully recommend it to be the best in use.

Respectfully yours,
JOHN W. WHEELER.

Many years' experience in the galvanizing business enables me to indorse the above statement in all particulars.
JOHN C. LEFFERTS,
No. 100 Beekman-st.

New-York, January, 1864.

Manufactured and sold, wholesale and retail, by
THE PUTNAM MANUFACTURING CO.,
No. 13 Platt-st., New-York, and Cleveland, Ohio.
S. C. NORTHROP, Agent.

STAMMERING.

And Stuttering cured by Bates's Patent Scientific Appliances.

For (new edition of) Pamphlets and Drawings describing the same, address H. C. L. MEARS, 277 West 23d Street, N. Y.

HOLIDAY PRESENTS
OF
Affection and Charity.
WHEELER & WILSON'S HIGHEST PREMIUM

LOCK STITCH

SEWING-MACHINES

No. 505 Broadway, New York.

50 First Premiums in 1863.

GROVER & BAKER'S

CELEBRATED ELASTIC STITCH

Sewing-Machines

Were awarded the highest premiums over all competitors at the State Fairs of New-York, Vermont, Iowa, Indiana, Michigan, Illinois, Kentucky, Pennsylvania, Ohio, and Oregon, and at every respectable Institute and County Fair held in 1863.

Sales-rooms 495 Broadway, New York.

EVERY PERSON CAN OPERATE

THE

WEED LOCK STITCH

Shuttle Sewing Machine.

Its work is **perfect.** Send for samples. Agents have ready sales. Address 556 Broadway, New-York.

DIAMOND PARLOR MATCHES.

DIAMOND. DIAMOND.

Superior to any others in the World, contain no Sulphur.—No Smell when Burning.—Never miss fire —and will stand any climate. Sold at retail at 15 cents per dozen Boxes. A liberal discount to the trade by the case of 5 or 10 gross.

Address

LODI MANUFACTURING CO.,
66 Courtland-st., New-York.

Amalgam Bells,

AMALGAM BELLS. AMALGAM BELLS.

At prices within the reach of every Church, School, Cemetery, Factory, or Farm in the land. Their use throughout the United States and Canada for the past six years has proven them to combine most valuable qualities, among which are TONE, STRENGTH, SONOROUSNESS, and DURABILITY OF VIBRATION, unequalled by any other manufactures. Sizes from 50 to 5000 lbs., costing TWO THIRDS LESS than other metal, or 15 cents per pound, at which price we warrant them twelve months. Old bell metal taken in exchange, or bought for cash. Send for a Circular to the Manufacturer.

JOHN R. HOBINSON,
No. 199 William-street, New-York.

HYDROMETERS,

For testing the quality of milk—tells whether richer than the standard for pure milk or if reduced by water, and the amount of water introduced. Every one producing milk with different kinds of food should have one. Price $4 per dozen by express. One by mail 50 cents.

HYDROMETER CO., Worcester Mass.

A RADICAL CURE FOR HERNIA OR RUPTURE!
WHITE'S PATENT LEVER TRUSS
is so constructed as to positively cure this dangerous disease. No pressure is made on the back or spermatic cord—action is inward and upward, light, clean and easy. The power can be made strong or weak at pleasure, as required. It differs entirely in principle from all Trusses in use, and is made to cure, and not simply hold and injure. Pamphlets free. Sold only by GREGORY & CO., No. 600 Broadway, N. Y.

Artificial Legs and Arms.

SELPHO'S PATENT, Established 24 years. The best substitutes for lost limbs ever invented. Can be had only of Wm. Selpho & Son, Patentees, 516 Broadway, N. Y. N. B.—Silver Medal awarded at late Fair of the American Institute, and New-Haven County, for best Artificial Limbs

MORRIS'
Concentrated Lemonade.

This Article

presents in a CRYSTALIZED, CONCENTRATED form,

PURE LEMONADE.

Its **Portability** recommends it for **Travellers** and **Soldiers,** and its **Economy** for **Family use.** For

INVALIDS

suffering with **Fever** in any form, or with **Great Thirst** it is **constantly prescribed by Physicians,** as it is the most **grateful** and **refreshing** of **drinks.**

THE U. S. SANITARY COMMISSION

have used it in very large quantities for the **SOLDIERS IN HOSPITALS** for two years past, and it is highly recommended by them as a Preventive and

CURE for SCURVY

In the **Army** and **Navy.** It is an **indispensable** article in every **SOLDIER'S KNAPSACK.**

FOR EXCURSIONS AND PICNICS,

or **PARTIES;** for **Hotels, Restaurants,** and for making **Punches,** nothing can equal it; being both

CONVENIENT and ECONOMICAL.

The Editors of the AMERICAN AGRICULTURIST recommend it highly.

Prepared with special care, with **Pure, White Sugar,** it is always ready for **Immediate use,** by simply dissolving in water.

One tablespoonful of the powder makes a large glass of

PURE LEMONADE,

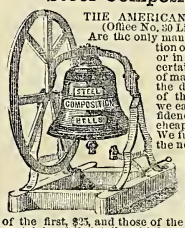
Warranted to contain nothing but the **Lemon** and **Sugar.**

For sale by all Druggists and Grocers.

Put up in cases of 2 dozen each.

WM. H. MORRIS, Wholesale Agent,
151 Nassau-Street, New-York.

Steel Composition Bells.



THE AMERICAN BELL COMPANY,
(Office No. 30 Liberty-street, New-York.)
Are the only manufacturers of this description of Bell, either in this country or in Europe—the combining of certain metals, and the process of manufacturing the same being the discovery of the President of the Company. These Bells we can commend with great confidence to the public, for their cheapness and quality of tone. We furnish a 500 lb. bell with all the necessary appointments—including Harrison's patented Self-acting Rotary, for $125, and one of 1000 lbs, with like appointments, for $244. The price for the Bells being 20c. per pound, and that of the hangings of the first, $25, and those of the latter $44. Our circulars, containing full details, will be forwarded free of charge to all parties desiring the same.

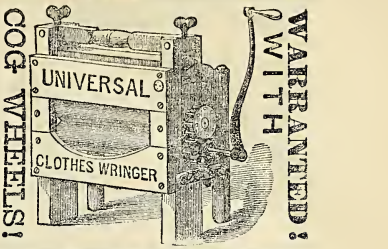
Portable Printing Office.

For the use of Merchants, Druggists, and all business and professional men who wish to do their own printing, neatly and cheaply. Adapted to the printing of Handbills, Billheads, Circulars, Labels, Cards, and small Newspapers. Full instructions accompany each office, enabling a boy ten years old to work them successfully. Circulars sent free.—Specimen sheets of Type, Cuts, &c., 6 cents.

Address ADAMS' PRESS CO.,
31 Park Row, New-York,
and 33 Lincoln St., Boston, Mass.

A Neglected Cough, Cold, An Irritated Sore Throat if allowed to progress, results in serious Pulmonary Bronchial and Asthmatic Diseases, oftentimes incurable. BROWN'S BRONCHIAL TROCHES reach *directly* the affected parts, and give almost immediate relief. For BRONCHITIS, ASTHMA, CATARRH, and CONSUMPTIVE COUGHS the Troches are useful. PUBLIC SPEAKERS and SINGERS should have the Troches to clear and strengthen the voice. MILITARY OFFICERS and SOLDIERS who overtax the voice, and are exposed to sudden changes, should use them. OBTAIN only the *Genuine.* "Brown's Bronchial Troches" having *proved* their efficacy by a test of many years, are highly recommended and prescribed by Physicians and Surgeons in the Army, and have received testimonials from many eminent men.

Sold by all Druggists and Dealers in Medicines in the United States and most Foreign countries, at 25 cts. per box.



No Iron Frame to Break, or Rust, and Spoil the Clothes.

53,818 sold in 1863,

It was pronounced superior to all others at the World's Fair at London, 1862. It took the FIRST PREMIUM at the great Fair of the AMERICAN INSTITUTE, in New-York City, 1863.

It took the FIRST PREMIUM at the

NEW-YORK STATE FAIR	1862 and 1863.
VERMONT STATE FAIR	1863.
PENNSYLVANIA STATE FAIR	1863.
IOWA STATE FAIR	1863.
ILLINOIS STATE FAIR	1863
INDIANA STATE FAIR	1863.

And at County Fairs without number.

SELF-ADJUSTING and ADJUSTABLE!

The only Wringer with the Patent

Cog Wheel Regulator,

which POSITIVELY prevents the rolls from

BREAKING, OR TWISTING ON THE SHAFT.

Without Cog-wheels, the whole strain of forcing the cloth through the Machine is put upon the lower roll causing three times as much strain upon the lower roll as when Cog-wheels with our Patent Regulator are used, besides the extra strain upon the cloth.

In reply to the question, "How LONG WILL IT LAST?" we can only say, "As long as a wash-tub, cooking-stove, or any other family utensil." See testimony of ORANGE JUDD, of the American Agriculturist, No. 41 Park Row, N. Y. who says of the

"We think the machine much more than PAYS FOR ITSELF EVERY YEAR in the saving of garments! We consider it important that the Wringer be fitted with Cogs, otherwise a mass of garments may clog the rollers, and the rollers upon the crank-shaft slip and tear the clothes, or the rubber break loose from the shaft. Our own is one of the first made, and it is as GOOD AS NEW after nearly FOUR YEAR'S CONSTANT USE."

IT SAVES

TIME, LABOR, CLOTHES AND MONEY.

It is easily and firmly secured to the tub or washing-machine, and will fit tubs of any size or shape.

It is not only a PERFECT WRINGER, but the Cog-wheels give it a POWER which renders it a most

EXCELLENT WASHER,

pressing and separating as it does the DIRT with the WATER, from the clothes.

It will save its cost every six months in the saving of clothes. We have seven sizes, from $5.50 to $30. The ordinary family sizes are No. 4, $10, and No. 2, $7. These have

COG WHEELS

AND ARE WARRANTED

in every particular.

This means, especially, that after a few months' use, the lower roll

WILL NOT TWIST ON THE SHAFT,

and tear the clothing.

In our monthly sales of over 5,000, only from one to two dozen are without Cogs. In our retail sales we have not sold one in nearly two years! This shows which style is appreciated by the public. This is the only Wringer with the

PATENT COG-WHEEL REGULATOR,

Therefore, for cheapness and durability, buy only the

UNIVERSAL CLOTHES WRINGER.

On receipt of the price, from places where no one is selling, we will send the U. C. W., FREE OF EXPENSE. What we especially want is a good

CANVASSER

in every town. We offer liberal inducements, and guarantee the exclusive sale.

R. C. BROWNING,
347 Broadway, New-York.

MUSIC IN THE SUNDAY SCHOOL.

Every superintendent and teacher knows the value of music in the Sunday School. It is one of its chief attractions and most profitable exercises. If you would have your Sunday School well attended, MAKE ITS MUSIC ATTRACTIVE. If you would have your Sunday School efficient as a means of good, MAKE ITS MUSIC EFFICIENT. Song has peculiar power to reach the heart and arouse the feelings. All this is, in some measure, at least, understood and appreciated, and the problem, often a difficult one, is how to make the music what it should be.

No one means is more important to this end, than a good accompanying instrument. However excellent the leader may be, he needs an instrument to help him; and where the leader has not much confidence in himself, an accompanying instrument is of yet more value. Such an instrument will attract and interest the children; will induce them to try to sing, and render it much easier for them to do so. It will add vastly to the impressiveness of the music; and, indeed, so great is its value that no Sunday School which has enjoyed the use of a good one, will afterward be satisfied to do without one.

A great difficulty in the way of the general introduction of accompanying instruments in Sabbath Schools, has been the lack of these, which were both desirable and available. Such an instrument must have good quality of tone, for this is the first essential; it must have great volume or power, because it should be sufficient to guide and sustain, (though not overpower) a chorus of hundreds of voices; it must occupy little space, because not many Sunday School rooms have much to spare for such a purpose; it must be durable, not liable to get out of order, or out of tune; and last, (not least, practically) it must be afforded at a moderate cost, for few Sunday Schools can afford to expend a very large sum for an instrument. The melodeon has failed, chiefly because it lacked power or volume of tone; the various harmoniums, school organs, &c., have had more power, but have been deficient in quality of tone, and in other respects.

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Special to Advertisers.—We call the special attention of Advertisers to the terms and conditions on page 89. The first edition of this number is over **90,000** copies, and the first edition of the April No. will perhaps reach **100,000;** so we *must* go to press soon after March 10th. Half or more of the space for April is already engaged.

A Special Request—To Our Readers.

The attention of the reader is respectfully asked to the following statements: Twenty-two volumes of this Journal have been published at the uniform rate of $1 per volume, though its size and value have been more than doubled, and the cost of the work and the engravings is tenfold greater than formerly, while printing paper has more than doubled in price within two years, and other expenses have increased in nearly the same ratio. Paper has usually fallen after the first of January, but this year it goes up, and we have greatly feared having to vary from the favorite old price. But we have bought a supply for 100,000 subscribers during the first half of the year, and hope to secure enough for the next six months, before any further material rise. So, if the full 100,000 subscribers are made up, we can go smoothly through the year, at the old rates, with a sufficient margin to meet any unlooked for contingency, or for a little profit if the times turn in our favor. Should the latter event happen, we think all our older readers, will be glad to have us reap a little harvest, after so many years of incessant toil, in plowing, and sowing, and cultivating.

At the present rate, we shall have full 90,000 subscribers by the time this number reaches the readers. Can we not have the remaining 10,000? Will it not be a pleasure to all our readers, as well as ourselves, to belong to *such* a circle? There is pleasure in the idea of sending forth a round 100,000 copies of each number of the *Agriculturist* to **One hundred thousand families!** to furnish to each, food for thought, hints for the farm work, for the care of animals, for the profitable planting and culture of trees and vines, for sowing and tilling the kitchen garden, for arranging the flowers that deck the borders and twine around the doorway, for the labors of the household, and for the amusement and instruction of the little ones—the olive plants that cheer and adorn our homes. Never before did we feel more sensibly the magnitude, the importance, and the pleasure of our work, than now that we approach so near the hundred thousand circulation.

Shall we have the remaining 10,000, this month? Judging from the kind feelings and generous efforts of our readers manifested thus far this year, for which we desire to express our warmest thanks, we have strong confidence that they will cheerfully aid in finishing up the list. This number reached, we do not purpose putting forth further *special* efforts at present, though we believe the country would be all the better for it, if a million families were readers of such a journal as we aim to make.

Well, what say our friends? Will each contribute one of the names? This can not be done in all cases, for in many neighborhoods almost every family now takes this paper, though in nearly every place there are a few left, who would be benefited by taking the *Agriculturist* to their homesteads. In other places, there are as yet but few copies, and many more might well be added.

In another column we continue the offer of premiums for clubs; but aside from this, we solicit the single subscriptions. In return, we will do all we can to make the paper valuable to every reader.

Please let the names come in, each marked if you please, "*One of the ten thousand.*"

PREMIUMS for 1864.

Or Pay to Voluntary Agents who attend to Collecting and forwarding Clubs of Subscribers to the American Agriculturist.

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No charge is made for packing or boxing any of the articles in this Premium List. The books, and the Premiums K, to S, inclusive, are DELIVERED *to any part of the United States and Territories, free of all charges. The other articles cost the recipient only the freight after leaving the manufactory of each.* ☞ *Every article offered is new and of the very best manufacture.*

Full particulars in reference to the premium articles and the terms, are given in the January *Agriculturist*, page 25. We invite the continued efforts of our friends, in filling up premium clubs under way, and new premium lists may still be started. Many hundreds have already secured and received one or more of the above good articles.—The book premiums are to be selected from our list on page 95—to the amount of 10 cents for each subscriber sent in clubs at 80 cents; or to the amount of 30 cents for each name at $1 a year. But no book premiums are given, where the club does not number at least 20 names. The books are *delivered free of cost*, by Mail or Express, to any part of the United States and Territories, and to the borders of the British Provinces. Many Farmers' Clubs have united their efforts, and by means of this premium, obtained a good Library.

N. B.—The varying cost of books and other articles, require some changes in the above premium terms, from month to month. The *terms*, therefore, hold good only for the particular month in which they are published.

CLUBS can at any time be increased, by remitting for each addition the price paid by the original members, if the subscriptions all date at the same starting point. The back numbers will of course be sent to added names

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We have complete sets of Vols. 16, 17, 18, 19, 20, 21, 22, both unbound, and bound in neat covers with gilt lettered backs. Prices at the office: *bound* $1.50, *unbound* $1.00 each. Back Volumes are sent prepaid by mail, (*they can not go unpaid,*) *if bound*, $2.00 each; *if unbound*; $1.24 each. Single numbers of any of the above Volumes, 10 cents each.

Binding.—Sets sent to the office will be bound up neatly (in our regular style of binding) for 50 cents a volume.

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ORANGE JUDD, **41** Park-Row, New-York City

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FOR THE

Farm, Garden, and Household.

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ORANGE JUDD, A.M., EDITOR AND PROPRIETOR. Office, 41 Park Row, (Times Buildings.)

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VOLUME XXIII—No. 4. NEW-YORK, APRIL, 1864. NEW SERIES—No. 207.

Entered according to act of Congress in the year 1863, by ORANGE JUDD, in the Clerk's Office of the District Court of the United States for the Southern District of New-York. ☞ Other Journals are invited to copy desirable articles freely, *if* each article be credited to *American Agriculturist.*

American Agriculturist in German.

Each number of this Journal is published in both the English and German Languages. Both Editions are of the same size, and contain, as nearly as possible, the same Articles and Illustrations. The German Edition is furnished at the same rates as the English, singly or in clubs. A club may be part English, and part German.

Notes and Suggestions for the Month.

The sign of Taurus is very appropriate for the month in which farmers depend so much upon the patient labor and great strength of the ox. There are, indeed, many regions where the labor of the ox has been supplanted by that of the mule and horse; but still, where the pioneer pushes his long furrows into the almost boundless prairie, where the Indian trail is still fresh and the tough sod has a tenacity that only age will give, there we find the ox team the chief dependence. And, even further off, where the ever westward-moving trains bear the gold-seekers, or still more pushing pioneer farmers, into the golden mountains of Colorado or Idaho, the loud "whoh-haw" of the drivers, and the sharp crack of the snapper on the ox-goad, make the music of the Plains. It is worthy of note that those traveling with ox-teams are known among the Indians who see them on the way, as "whoh-haws,"—which name, however, is with the red men rather a term of reproach, for these people not being so liberal with their presents of sugar and whiskey, the Indian says: "Ugh! no shug—no whisk,—he whoh-haw." This is wandering: to return to our beeves. It has often been a surprise to the writer, when on an elevated point in New-England, where from a mountain-top much comparatively level country could be surveyed, to see the great number of ox teams; and could we pass in a balloon from west to east over the best cultivated portion of the country at this season and on a fair day, we might get some adequate idea of the dependence of our agriculture upon the ox, as a beast of draught. According to the forwardness of the season, and the condition of the soil, the ox-teams might be seen following the divergent cart-paths—now from the barns and stock-yards, hauling the black, teeming and steaming accumulations of the winter months; now straining in long "strings" of several yokes before the plow, crowded beam-deep into the yielding loam turned up dark and mellow behind them; now dragging with easier gait and in single yokes the harrow or the roller; and, besides, bending their necks to many other kinds of farm work.—Working oxen will bear a great deal of abuse, but short feed and hard work are fatal to *profit.* Nevertheless, among some farmers there is a theory that it is no disgrace to drive what they call "Spring-poor" cattle; as if this quality of "spring-poorness" was, like shedding off their coats, an inevitable annual occurrence. The ox thrives on simple hay or corn stalks, and if he has enough to eat, will go through the winter, bearing all the severity of the weather without shelter, however cruel it may be to subject him to it, and come out in good working order. Well-fed, however, he will do nearly double work.

The majority of calves are dropped at this season, and so, perhaps, the hopes of the race of bovines may be said to be symbolized in the sign of the Zodiac through which the sun passes this month. May their stars be lucky!—The constellation Taurus, by the way, is one of the most beautiful in the heavens, remarkable for those two striking groups, the Hyades and the Pleiades, so beautifully alluded to in Job, doubtless expressing the invariableness of the Seasons and the supposed effect upon the weather of the stars near which the sun passes: "The waters are hid as with stone, and the face of the deep is frozen. Canst thou bind the sweet influences of the Pleiades, or loose the bands of Orion?" So the gentle spring-time releases the waters and the herds from their winter confinement, and causes "the bud of the tender herb to spring forth."

Work for the Farm, Barn, and Stock Yard.

April is preeminently *seed time* throughout most of the Northern States: though beginning in March, it is chiefly in April that the bulk of the crops are sown. There is a rainy season and breaking up of the winter in March, followed by high and drying winds, and then by some weeks of comparatively dry weather. This dry "spell" seldom begins before March 25th, and rarely lasts beyond the first of May. Its approach may be known by reports of the state of the roads in Virginia and southward, and from thence we shall hear of the beginning of the cold rains of May some time before we experience them here. It is on this account that we ought to put in only those seeds that come up quickly or surely, and that are not particularly injured by cold, wet weather after they are up. Such are grass and clover seed, wheat, barley and oats, peas, carrots, onions, beets, flax, etc. But corn, sorghum, broom-corn, millet, beans, squashes, etc., if sown early are apt either to rot in the soil, or to drag out a puny existence, or die outright by late frosts.

Accounts.—Farm work begins to be complicated, and it will require a good deal of perseverence and application to keep the accounts all straight. But it well repays the trouble.

Barley.—Sow 2½ to 3 bushels per acre, on good soil, in fair tilth. To kill the smut, steep one day in a moderately strong brine containing some blue vitrol, then roll in lime or plaster. The Nepaul variety is highly esteemed, but scarce.

Birds.—Do not forget to provide houses for birds where they will protect the garden and orchard from insects. See page 76, of last No.

Buildings.—Collect all decaying materials, and clean up everywhere. Whitewash the poultry house inside, the cattle stalls, and interiors generally, where lice or any vermin might hide.

Cattle.—Feed work-cattle well and card them frequently. Apply unguentum mixed with 4 parts of lard, behind the horns and a little down the back, if there be any evidence of lice. Be very regular in feeding and giving cattle rest.

Cows and Calves.—Separate cows and calves early, if the milk is the main thing. Where veal is especially valuable, it often pays best to let calves run with the cows, sometimes giving one cow two calves, and as they are marketed, supplying their places with others. New milch cows ought to have some succulent food (roots or cabbages) at this season. It materially increases their flow of milk, and the increase is maintained when they get to pasture. Soiling ought not to be commenced before a constant supply of green food can be maintained.

Carrots.—For the farmer who feeds cows and horses, there is no crop more remunerative. It necessitates thorough culture and enriching of the soil, and as a preventive of disease, and as excellent feed, it has no equal. Sow Orange or Altringham early, in good, deep, clean soil.

Cellars should be submitted to thorough cleaning out, cleansing, and whitewashing, every particle of vegetation, bits of wood, boards, etc., removed, and roots sorted over and shifted.

Clover may still be sown on winter grain, or by itself. Sow plaster with it, or afterward.

Cranberry Swamps.—Prepare for setting out plants as soon as the water can be drawn off.

Corn Ground.—Prepare by manuring well and plowing; but seldom plant before May 10th.

Draining.—There is seldom time to do much at draining in the spring. See the effect of that which has been done, estimate advantages, note

wet, springy spots and their relations to the slopes and to each other, to ridges of clay or gravel beds, and be prepared to undertake systematic draining, or extend a plan already started, as soon as possible.

Fences.—See page 107 and the notes last month.

Grain Fields.—Roll where heaved by frost. Sow plaster and ashes, castor pomace, or the like, on fields which have suffered by winter, or lack thrift.

Hedges—Hops.—See sundry items in "Basket."

Help.—The organizations for securing for immigrants *good* places, and for *good* employers good help, are worthy of confidence so far as we know. Secure good hands, pay them all they are worth, and secure their confidence by meriting it. "The laborer is worthy of his hire," is the Scripture rule.

Hogs are the best manure makers on the farm, otherwise they could not be raised with profit anywhere at the East. Secure a good stock of shoats, and keep them at work. They need not be fattened if this will be a losing business; hog *breeding*, if conducted with care, is generally profitable.

Horses.—See that the increased demands upon them do not cause harness galls—bring them gradually to hard work, letting them harden by degrees.

Manure.—After spreading, plow or harrow in at once. It is best buried near the surface. A good compost for corn or potatoes is made by mixing 1 or 2 cwt. of Castor pomace to the load of muck, and working it over once in two weeks. Hen manure mixed with its weight of muck, moistened with chamber ley—allowed to heat—this finely pulverized and mixed with more earth or muck is an excellent guano. Save bones, secure dead animals, and treat both as recommended on page 70, last No.

Meadows and Pastures.—Keep off large and small cattle. Mixed grass seeds may be sown on thin spots and *harrowed* or raked in, or left upon the surface,—the first preferable. The sweepings of hay seed where a mow of hay has been, furnish good seed, unless weed seeds abound. Never turn stock to pasture till the grass is well grown: the feed is hurt for the entire summer.

Oats.—Sow early—the earlier the better. Get seed from a more northern latitude. Prime seed ought to weigh 40 to 44 pounds to the bushel. The demand for use in the army is and will be great.

Onions.—When sown on new soil, sow mixed with carrot seed; both crops will mature; the onions first. The second and following crops on the same land improve. The cultivation of onions for seed will often be profitable where the onion maggot is not known or is not very annoying.

Potatoes.—For the early market, plant Dykeman, or some other approved early white sort, in warm, dry soil, well enriched,—the earlier the better. For main crop, plant early and deep, in mellow soil, without any fresh or strong manure. Ashes and plaster are excellent fertilizers for potatoes.

Poultry.—Set all kinds as early as good eggs can be obtained. Old butter or lard tubs are excellent for nests. The chicks should be fed bread soaked in milk at first; cooked Indian meal afterward. *Pure water, green food*, and some grain daily, with scraps of meat now and then, heaps of pounded oyster shells, bones and gravel, and a dusting box containing ashes, are essential to profitable keeping of hens in close quarters.

Roads about the Farm.—Work on the cart paths and roads is the first that can be done in the spring. Good, well-graded paths and level, strong bridges over brooks and ditches, save the teams and vehicles, make work easier, and give a thrifty look.

Sheep.—See article on page 112, and Basket items.

Sorghum—Chinese Sugar Cane, and Imphee—Prepare land as for corn. Secure pure seeds.

Tobacco.—Prepare seed-bed, spading it deep, in rich soil, in a warm place. Lay on a heap of straw and brush and burn it off; remove the sticks and rake in the ashes. Sow proved seed (see Basket item), 1 tablespoonful to a square rod, and roll it or "spat" it over with a board. If the weather be very dry, water with liquid manure. To encourage germination, the seed may be mixed evenly with 3 or 4 times its bulk of fine soil and kept slightly moistened, in a warm place, till tendency to sprout is apparent, when it must be sowed. The admixture of earth secures evener seeding. One square rod of seed-bed will set an acre or more.

Tools.—A good, full set of convenient, sharp, light, strong tools is on many farms worth at least another hand. Send in orders early for the best mowers, reapers, hay-forks, etc., or you will not be accommodated this year.

Wheat.—Sow early. See article page 75, last No. A good breadth should be put in this spring.

Orchard and Nursery.

The seller and planter of trees will both be busy this month. The nurseryman should have every thing ready to insure dispatch and correctness in filling orders. A regard for the reputation of the establishment should not permit the sending out of any badly grown or unhealthy tree, nor any of doubtful identity. It is a great disappointment when one orders a selection of trees, to receive other varieties in place of those selected, with the excuse that they are "just as good." One rarely orders a second time from a nurseryman who does this. Trees that are to go a long distance must have their roots packed with a plenty of damp moss.—In established orchards but little is to be done except to repair damages. Remove broken limbs, pare the wounds smooth, and cover with grafting wax or shellac varnish. Treat girdled trees as directed last month. Several letters say that the application of soft soap and sulphur has kept off the rabbits. During a damp time wash the trunk with soft soap thinned with water so as to apply readily with a brush.

Almond Trees are about as hardy as the peach usually is, and are worth trying as a curiosity at least.

Budded Trees—If not done last season, cut them back to within two inches of the bud, if it has taken.

Grafting.—Do it according to directions given last month. A correspondent says that the best way to graft old trees is to head the branches all back in the spring, cover the stumps with waxed cloth and manure the tree. It will throw out a great number of new shoots which are allowed to grow the first year. The next season select the strongest of these, near the ends of the stump, for inserting the grafts, making the choice with a view to the future form of the tree, put one graft in each of these and remove all the rest. It is claimed that this treatment causes a renewed growth of root and that such trees do much better than when the graft is put directly into the old stump. For poorly growing and old trees this may do.

Insects.—Continue to crush the eggs whenever they are found glued to the twigs. Remove scale by use of soft soap alone or mixed with sulphur or lamp oil. If weak young trees have scale, cut them back quite severely to induce a vigorous growth. See article in "Basket" on a tree protector against borers. Alonzo Wilson of Iowa, recommends for the same purpose, as well as to protect from sudden changes of temperature, a jacket of bark taken from a basswood or hickory tree. A section of such bark long enough to reach from the limbs of the fruit tree to the ground is peeled and put around its trunk.

Layers.—Last year's growth from stools of quince and others propagated in this way, may be layered.

Manure.—It is not too late to apply manure to trees with good effect; not a mound around the trunk, but a good coating as far as the roots extend.

Planting.—If the ground for an orchard was not prepared last autumn, do it at once. Use only decomposed manure, reserving fresh manure for the surface. Plow deep and subsoil. The soil for an orchard should be 18 inches to two feet deep, and dry. If not dry it should be drained. If freshly broken sod is used for planting trees, in making the holes for planting, remove the sods so that they will not come in contact with the roots. Plant the trees 30 to 40 feet apart in quincunx order; that is the trees in one row opposite to the intervals of the next. Make the holes abundantly large, and in planting observe all the precautions given last month. There is a growing impression against staking trees, many claiming that if headed back according to the size of the roots it is unnecessary. One of our correspondents uses strong hooked pegs sawn out of 1½ or 2 inch plank; these are 16 inches to two feet long according to the nature of the soil, and made with a projecting head. He drives two or four of these hooks over the roots to keep the tree steady. We have never seen this in use.—Cultivate nothing but hoed and manured crops in the young orchard. In regard to varieties the only safe guide is to find out what has succeeded in the vicinity. Lists for particular states are only general guides from which exceptions must very frequently be made for each neighborhood.

Peach Trees.—These should be set in good dry, well-drained soil and elevated or rolling land should be selected if possible. In planting stones or in getting buds for propagating, be sure to get them from healthy trees. This is the only safeguard against the yellows. We have the testimony of several to the efficacy of a heap of stones around the tree in keeping away the borer. Young trees killed by the severe cold of last winter, if cut down to the ground, may throw up shoots which will serve for budding. Old trees are entirely destroyed in many places. Probe out the borers and apply some kind of protection as noted in "Basket" columns. Ashes invigorate sickly trees and in a measure keep off borers.

Pears.—The orchard culture of this fruit is too little appreciated. Standards are preferred for this.

Seeds, Pits and Nuts of fruit and forest trees and shrubs, which have been kept in boxes of earth during winter, may be planted. Nuts will rarely germinate unless they were placed in earth in autumn.

Wind-breaks.—A protecting hedge of some fast growing tree is of great service, especially in districts where high winds prevail. The soft maple, silver poplar, Ailanthus, and white willow are quick-growing deciduous trees for this purpose. The Norway Spruce, White Pine and Arbor Vitæ, are the most rapidly growing evergreens.

Kitchen Garden.

In selecting a spot for a new garden, a warm, rich piece of ground should be chosen, and if at all inclined to be wet, it must be thoroughly underdrained. In localities where strong winds prevail, there should be some protection upon the windward side: this may be afforded by a hedge of Norway Spruce or other quick-growing evergreen, or by a high, close board fence. It is well to have the garden close to the house, so that it can have frequent attention without the necessity of traveling far to give it. A plenty of manure and deep plowing or spading are necessary to secure the best results. If the directions given last December were heeded, the garden will be ready for the spade or plow as soon as the soil is dry enough; but as most persons defer their clearing up until spring, this in a majority of gardens will be the first work to attend to. The remains of last year's crops, brush, old stakes, and other rubbish are to be brought together in heaps and burned. There is nothing gained by working the soil before it has become dry and settled, and most seeds should be kept out until it has been warmed up by the sun.

Asparagus.—Rake off the coarse litter and carefully fork in the fine portions of the manure. Give a dressing of salt. Seeds may be sown and new beds made by planting, as indicated last month.

Beans.—Early sorts may be planted, if danger of frost is over. Limas may be started on sods in the hot-bed, as directed on page 82, last month.

Bean Poles and Pea Brush.—If a stock has not been secured, cut it at once, before the leaves start.

Beets.—Sow early sorts as directed on page 115.

Broccoli.—This is in appearance much like cauliflower, but is inferior to it. It generally heads freely. Treat in the same way as cauliflower.

Brussels Sprouts.—This little-known vegetable is figured on page 13 (January), and its culture is the same as that of the cabbage.

Cabbages.—Sow early sorts in hot-bed, cold-frame, or pots, if not already done. Sift ashes over the plants already up, to keep off insects. Seed may be sown in the open ground near the end of the month. Early York is a reliable kind. Little Pixie is highly recommended as a new early sort. Winningstadt is good for medium early or late, and succeeds on poor soil better than other varieties.

Carrots.—Sow Early Horn after reading the hints on pages 108 and 115.

Cauliflower.—Manage according to directions on page 116. If insects appear, use ashes and plaster.

Celery.—Plants already up should be shaded from the sun from 10 A. M. till 4 P. M., on clear days. Thin to an inch apart, and give air every morning. Sow seeds in a moderate hot-bed, or in a cold-frame, and at the end of the month in the open border. It is a good plan to burn over the surface of the seed-bed with brush or litter, to destroy weed seeds, before sowing the celery. The Early White Solid, and the Red Solid are best early.

Celeriac.—Sow in hot-beds, or later in the open ground. See page 116.

Cold-Frames.—In absence of a hot-bed, these are useful to forward seedlings. They are convenient to receive potted plants, or plants which have been started in hot-beds may be pricked out in them, until the weather will allow them to be put in the open ground. Remove the sash every fine day to harden off the plants, and cover in the afternoon.

Cress, (Peppergrass).—Sow as directed last month.

Cucumbers.—Start seeds on sod in hot-bed, cold-frame, or in a box in the house, as directed on page 82, last month. Some hollow out large turnips and fill with earth, so as to make a kind of flower-pot, and set these in boxes in the house and start the seeds in them. The turnip, with the plant, is set out in the hill, cutting off the bottom of the turnip at the time, to allow the cucumber roots room to spread. Either of these contrivances will do to get a few very early. See "Basket" item on pots. May is early enough to sow for the main crop.

Drain.—If there is time at this busy season, put tile drains in the wettest part of the garden.

Egg Plants.—These grow very slowly at first, and they should be forwarded early. As soon as the plants get large enough, it is well to pot them.

Endive.—Sow early for summer use.

Garlic.—Separate the small bulbs, or "cloves," set in rows a foot apart, and 6 inches in the rows.

Herbs.—Sow as directed on page 111, as soon as the weather is settled and the soil is warm.

Hot-Beds.—In cold climates the first of April will be found quite early enough to start the hot-bed for the family garden. Ample directions were given last month. Those in which the plants are up, will need airing on warm days, and shading when the sun is very powerful. Stir the soil between the rows; weed, water, and thin the plants as needed.

Kohl-rabi.—Sow in a seed bed, or if wanted early, in hot-bed, same as cabbages.

Horse Radish.—Treat as directed last month.

Leeks.—See directions for culture on page 109.

Lettuce.—Set out plants which were started under glass. Sow in open ground as soon as a bed can be prepared, in rich soil, in drills a foot apart, and thin to nine inches or a foot. Hoe frequently.

Manure and Compost.—Work over the heap, and remove all sticks and rubbish. The more finely divided it is, the better. An abundance of good manure has much to do with "luck" in gardening. Prepare a tank or cask for liquid fertilizers.

Mustard.—Sow for salad or greens as soon as the ground can be worked, in shallow drills a foot apart.

Melons.—Start early sorts same as cucumbers.

Onions.—Potato, Tops, and Sets, may be put out in good soil, at the distance of four inches, in rows a foot apart. The clusters of potato and top onions are to be broken up, and each small bulb put by itself. Sow seed as soon as the soil can be prepared. Give well-decomposed manure and pulverize the soil thoroughly. It is a good plan to burn over the bed with straw before sowing. Sow thinly, in drills 15 inches apart. Be careful to get good seed. See article on page 109, and for field cultivation, our Onion Pamphlet referred to in "Basket."

Parsley.—See page 111. Soak the seed for 12 hours in tepid water before planting.

Parsnips.—Sow in drills 15 inches apart, in rich, deep soil, as soon as may be. Get good seed.

Peas.—These may be put in early, as they will stand the frost. Put the first sown under shelter of a board fence. See notes on dwarfs on page 116. For tall sorts have the rows 3 to 6 feet apart, according to the height. The plants will come sooner if the seed is soaked 24 hours in tepid water.

Peppers.—Sow in hot-bed.

Potatoes.—Plant as directed last month. See note on starting them, on page 75, March No.

Potting.—Tomatoes, Egg Plants, Cauliflowers, and other plants started early in hot-beds, may be transferred to small pots filled with good soil, and kept in a cold-frame or spent hot-bed. They will, if properly aired and watered, become strong, stocky plants, ready to turn out into the garden as soon as frosts are over, and will come into bearing sooner than those not potted in this way.

Pricking Out.—The advantages of potting may be in part gained by "pricking out," or transplanting from the hot-bed to nicely prepared soil in a cold-frame, previous to setting the plants where they are to remain. In both cases the plants receive a beneficial root pruning which forwards them.

Radishes.—Seed may be put in vacant places in the hot-bed. Unless a radish grows rapidly it is worthless. Therefore, a quick, rather sandy soil is the best. Sow at intervals for succession.

Rhubarb.—Fork in manure around the old plants. Make new beds if the crowns have not started too much. Remove the earth around the old plant, and with a sharp spade remove a bud with a portion of root attached. Set out in well manured ground, 4 feet each way. Linnæus is best.

Salsify, or Vegetable Oyster.—Sow early, in drills one foot apart, and cultivate the same as carrots. Treat Scorzonera, a similar vegetable, the same.

Sea Kale.—This is described on page 116. Those who wish to try it can sow the seeds early.

Spinach.—Plain directions are given on page 111.

Squashes.—Early sorts may be forwarded as suggested for cucumbers.

Sweet Corn.—A few hills of some early variety may be started in sods, under glass, and a short time be gained over that planted in the ground.

Seeds.—Biennial roots and bulbs, such as turnip, beet, onion, etc., which have been saved to furnish seed, are to be put out in good soil, taking care to keep different varieties of the same kind as far apart as possible, to prevent mixing.

Swiss Chard.—This is a variety of beet cultivated for the leaf only, the root being worthless. Sow like other beets, and break off the outside leaves as they develop, and use like spinach.

Sweet Potatoes.—These are started the present month in hot-beds. The potatoes are split lengthwise if large, and laid flat side down, close together, on the bed and covered about two inches deep, with a rich, fine compost. When the shoots push above this, an inch more is added. The bed is watered as needed and kept warm at night, and the plants exposed to air during fair days. When the sprouts are of sufficient size and well-rooted, the best are slipped off and the potato returned to the bed for the others to grow. A bushel of potatoes is said by Mr. Thompson to yield from three to five thousand plants, each thousand of which should produce forty bushels of potatoes.

Tomatoes.—Those started early may be potted off or pricked out in a cold-frame. Seeds may still be sown in hot or cold-frames. Those who are without these, can start some seeds in small pots in the house. Shift to larger pots as the plants need.

Tools.—See that all are in good order, and make good all deficiencies. A good spading fork is an indispensable tool in the garden.

Turnips.—The early sorts are to be put in as soon as the ground is open, in drills a foot apart.

Vegetable Marrow.—This occupies in English gardens the place that squashes do in ours. It is grown like a squash and eaten in the same way from a very early state until the seeds ripen.

Fruit Garden.

The soil for small fruits should be well drained, well manured, and thoroughly and deeply plowed or spaded. In selecting varieties for planting, it should be considered whether the product is for market or for home use. The fruit garden, besides the small fruits, may properly include dwarf trees of those kinds usually cultivated as standards.

Cherries.—The standard varieties when budded on the Mahaleb stock make compact trees for the fruit garden. They may all be had at large nurseries.

Currants and Gooseberries.—Manure the old plants and set out new ones. Plant cuttings; first removing all but 3 or 4 of the upper buds, and crowd the soil firmly around their lower ends.

Grapes.—So much is said on other pages upon the grape that nothing needs to be added here.

Blackberries.—No fruit garden should be without some of the improved varieties. The New Rochelle is best, all things considered. Set the plants, at least 6 feet apart each way, previously cutting back to within 6 inches of the root. Prepare a trellis to tie the canes to. Wire is generally used, stretched between strong posts, which are 6½ feet high above the ground. No. 9 or 10 wire is used, putting one piece two feet from the ground, and the others above it at 18 inches apart. Secure the canes to it by means of lead wire or soft twine.

Raspberries.—Uncover buried canes and tie to stakes or trellises. Cut a few inches from the tops of the canes, and give a liberal dressing of well decomposed manure, which is to be carefully forked in. Set out new plants, three feet apart, in rows which are four feet distant. Franconia, Fastolff, and Brinckle's Orange are good sorts for the family garden. The Hudson River Antwerp is preferred around New-York as a market fruit. Do not forget to try the American Black Cap. See note on page 85 (last month). Established vines are to have the wood cut out which bore the year before.

Strawberries.—The mulching of straw is to be parted directly over the plants, leaving it on the bed to keep down weeds and protect the fruit from being soiled. For garden culture, make beds 4 feet wide, with 18-inch alleys between. Set 3 rows of plants in each bed, one row in the center and the others 18 inches from it, putting the plants 12 to 18 inches apart in the rows. Spread the roots well, and plant as deeply as may be, without covering the crown of the plant or sinking below the surface.

Flower Garden and Lawn.

If the weather is suitable, the work of laying out new grounds and arranging old ones can be pushed rapidly. All rubbish is to be gathered from the lawns, paths, and borders, and all damage done during the winter repaired. The condition of the lawn, or grass plot, should be examined, and if necessary, repaired, according to suggestions on page 115. In any case the grass will be improved by a dressing of fine manure; or common manure may be used, if the litter is afterward raked off. If the borders had a dressing of manure last autumn, it may be forked in, or fine compost may be applied and worked in now.

Annuals.—Except with the more hardy kinds, nothing is gained by sowing too early in the borders. All kinds may be forwarded in the hot-bed or cold-frame, or in pots in the green or dwelling house. Those which were started early and have made three or four leaves, may be potted. Those annuals which spring up from seed self-sown in the autumn, may be sown as soon as the frost leaves the ground. Among these are Larkspur, Portulaccas, Candytuft, Gilias, Petunias, Whitlavia, Sweet Alyssum, Pansies, etc.

Bulbs.—If the weather allows, these may be uncovered. Tall-growing Hyacinths and Crown Imperials will need stakes.

Climbers.—These add much to the beauty of a place, whether trained to cover fences, buildings, or running upon stakes and trellises. The Wistaria, Trumpet Creeper, and Honeysuckle are among those grown for their flowers, and the Virginia Creeper and Ivy for their foliage only. **The annuals will be early enough planted next month.**

Edgings.—Grass and Box are the most used. Both require care to keep them neat. Frequent use of the edging-knife is required for the grass. Shabby Box edging must be taken up and reset.

Frames and Pits.—Ventilate freely to prepare the plants for removal to the open ground.

Gravel Walks.—Remove weeds, supply fresh gravel where needed; rake and roll thoroughly.

Hedges.—Deciduous hedge plants, Privet, Hawthorn, Buckthorn, Osage Orange, etc., may be set.

Manure.—Give the borders a good dressing of fine compost, and do not neglect to manure the trees and shrubs on the lawn.

Perennials and Biennials.—Sow seeds of hardy sorts. Old roots of Phlox, Dicentra, etc., if divided and reset, will bloom all the better. Transplant Hollyhocks and Sweet Williams if not done in autumn.

Roses.—Plant early, heading back well to induce a strong growth. The June roses may be thinned out and shortened somewhat. The perpetuals may have the branches cut back to 3 or 4 buds. In purchasing, select those which flower freely on their own roots. There are some sorts which bloom better when grafted, but these will, in most cases, prove unsatisfactory to the general cultivator. Have some climbing roses. The Baltimore Belle is the best of these, but there are other good sorts.

Shrubs.—Thin, prune, transplant, and set out new stock. Give well prepared soil. See page 114 for notes on shrubs. Remove the covering from tender sorts protected in autumn, only after the weather has become settled.

Trees.—All deciduous trees may be planted for shade or ornament. They should receive the same care as a fruit tree. A pyramid dwarf pear, or a grape vine trained to a stake, as shown on page 110, may sometimes be introduced with good effect.

Green and Hot-Houses.

Fire heat may be discontinued in the hot-house, and dispensed with altogether in the green-house, except in unusually cold weather. Ventilate the green-house to prepare plants for removal.

Bedding Plants.—Pot off cuttings and in a few days remove to a cool-frame to harden, and continue to propagate Petunias, Verbenas, etc.

Bulbs.—Hyacinths and other hardy sorts which are through blooming, may be turned into the open border. Forward Cape bulbs in a light situation.

Camellias.—Prune into shape as soon as they are through flowering. Syringe freely, and keep clean. Propagate from cuttings.

Fuchsias.—These as they grow will need more water. Insert cuttings.

Insects will need to be kept in check. Frequent syringing and a damp atmosphere will kill the red spider. Aphis and others need tobacco smoke.

Inarching may be performed on shrubby plants.

Potting.—Repot those plants which are to grow during the summer, unless they have room enough.

Pruning.—Thin out crowded plants, and head back feeble and straggling ones, and get a new start.

Seeds of green-house plants may now be sown. Covering too deep is one great cause of failure.

Water all growing plants freely

Cold Grapery.

The beginning of the present month is the usual time for uncovering vines in this latitude, though some do it the latter part of March. The vines are uncovered and suspended temporarily to the wires in such a manner that the top of the vine will bend downward. This will cause the buds throughout the whole length to break more evenly. The inside borders should be forked up, and the house should be syringed all over. If the vines have suffered during winter from excessive cold, or from not being properly ripened, they will show it by cracks which will soon begin to bleed. This trouble is usually manifested near the upper portions of the vine; if it proves serious and the upper buds do not start well, it will be necessary to cut the vine back, after a strong shoot near the lower part has grown some 18 inches. This shoot must be trained to replace the cane which was removed. If the vine is healthy, it may be tied up to the wires, after the shoots have made a growth of 2 or 3 inches. Avoid drafts, and keep the temperature low (about 65°) until near the end of the month, when it may reach 70° to 80°, and the syringe be then used freely morning and evening, wetting the wood-work of the house, as well as the vines.

Apiary in April.

Prepared by M. Quinby—By Request.

In this latitude the labors of the season fairly commence with bees this month. They will range far and wide in search of pollen, honey not being yet obtainable to any extent. An untimely frost may destroy most of the flowers, and in such case care will be needed to prevent robbing. Unbolted rye flour spread in the vicinity of the hives, as recommended last month, will give employment, and at least a partial supply of food. In the hive, as in society, idleness is the parent of mischief; strong stocks not being in the fields, are very likely to make forays upon their weaker neighbors. Weak colonies may need guarding by contracting the entrances to the hives, so that only one bee can pass at a time. Robbing may be easily detected toward evening, when bees that should be quiet at home, are very busy pillaging from a weaker hive. Sprinkle flour upon them as they leave with their plunder, and they can then be readily followed to their own quarters. Do not mistake fighting for stealing; while there is contention on the outside of the hive, it is an indication of strength within, and contracting the entrance will usually be a sufficient precaution. To determine with certainty whether the bees are plundering, kill one or more of them as they leave the hive, and examine their honey sack in the abdomen; if it is full of honey the evidence is against them. If the bees from only one hive are stealing, change the stands, setting the hive of robbers in the place of the sufferers. If the entrance has been contracted, and the plunderers are so briskly at work as to threaten all the stores before night, close the hive at once. At sundown open the hive to allow the robbers to leave and those belonging there to retire. But should the robbers inside much exceed in numbers the others, you may keep them enclosed, and remove the hive to some dark room or cellar four or five days, by which time the raiders will take the oath of allegiance, and join in defending the common stores. If, during this time, the weather has allowed the bees to search and become discouraged in looking for more plunder, they may be returned to the stand; unfavorable weather for bees to fly might make it necessary to wait. When practicable, move them a mile or two away for a few weeks.....Honey is needed by the older bees, and as this cannot yet be obtained in the fields, some colonies may need feeding; this may be ascertained and the matter arranged as directed last month. The labors of the hive will be greatly lightened and the health of the community promoted, by cleaning out all filth and refuse from the bottom boards, and removing dead bees from among the combs. If the combs have become mouldy from neglect, remove them as well as the decaying bees. The living inmates can be quieted for this operation by blowing tobacco smoke among them. Examine the floor of the hives frequently for moth worms, and destroy them. Wren boxes put up in the vicinity of the hives will be of much service in keeping the parent millers in check.... Avoid opening the movable comb hives on cold mornings or in chilly weather, lest the brood be injured. Neither is it safe to open them in the middle of the day, in large apiaires, while the bees are flying, as it might expose them to robbery, at any time before flowers are yielding a full supply of honey....Leisure time may be improved in making or repairing any additional hives or boxes likely to be needed during the present season. After painting hives, time enough should be given for the scent of the paint to pass entirely away before introducing a colony. No patent arrangement can be of much service to those who cannot take time and pains to give proper attention to bees. The movable frames are valuable in facilitating many changes, which experienced apiarians find desirable. No arrangement will, of itself, secure a greater yield of honey, although with proper management practical beekeepers can prevent much loss, and thus increase the profits of the apiary..... Those who desire the Italian stock should get queens from a reliable source with warranty of their purity. If any *black* worker bees appear among the progeny, it is evident that the queen has coupled with the common drone, and the stock is, of course, hybrid. Whoever keeps Italians within three miles of the common species cannot be sure that his queens have met drones of their own kind, and if he warrants their purity, he may have to send several before his agreement is fulfilled....The movable comb hive will be found most convenient for the Italians, although it is possible, with more trouble, to use common box hives.

Select Catalogue of Garden Vegetables.

The following catalogue of kinds known to be good, is prepared for the *American Agriculturist* to enable those who have not had much experience, to make a selection from the many varieties offered by the seedsmen. There is as much difference in the quality of the varieties of some of the garden-vegetables, as there is in that of apples or other fruits. Good seeds of good sorts are the prime requisite in a garden, and it is much better to be at a little trouble to get them from reliable sources than to run the risk of buying a poor article from peddlers, or from unreliable variety stores. The postage on seeds is only 8 cents a pound. The surest way is to send to some of the dealers who advertise with us for their catalogues, and order seeds by mail.—This will but slightly increase the expense, and enable persons at a distance from large dealers to make a selection from their extensive stocks. Those marked as new, we have not tried, but they are recommended on good authority.

BEANS—DWARF OR BUSH: Early Valentine, for string or snaps; Yellow Six Weeks, do. do.; Dwarf Horticultural, for early shelling. POLE BEANS: Large Lima, in warm locations; Small Lima, North of New-York.

BEETS.—Early Bassano, or Early Turnip; Long Blood, for main crop; Swiss Chard, fine for greens only.

CABBAGE.—Early York, small but early; Early Sugar Loaf, and Early Ox Heart, large and early; Little Pixie, a new early sort; Winningstadt, medium early, large, very hard heads; Flat Dutch, for Winter; Red Dutch, for pickling; Marblehead Drumhead, very large; Green Globe Savoy, small, late, the richest of cabbages.

CARROTS.—Early Horn; Long Orange for main crop.

CAULIFLOWER.—Early and Half Early Paris, fine; Thorburn's Nonparell, superb; Large Asiatic, fine, late.

CELERY.—Early White Solid, for earliest; Giant White Solid, for late crops; Incomparable Dwarf Crimson, new.

CORN.—Dwarf Sugar, small ears; Darling's Early, good; Stowell's Evergreen, and Asylum Sugar, fine, late.

CUCUMBERS.—Early Russian, small, early, and prolific; White Spined, best for table; Long Green, for pickles.

EGG PLANT.—Long Purple, early; N. Y. Purple, late.

ENDIVE.—Green Curled, for summer and fall salads.

KALE.—Green Curled Scotch, winter and spring greens.

KOHL-RABI, or "Turnip Cabbage." LEEK.—Large Flag, for soups. LETTUCE.—Curled Silesian, for earliest, India Head and Ice Drumhead, fine; Butter, superior.

MUSKMELON.—Fine Nutmeg; Jenny Lind, very early, Green Persian, large and good: White Japan, the best.

WATERMELON.—Mountain Sprout, productive and early; Ice Cream, very fine; Black Spanish, fine but later.

ONION.—Large Red; White Portugal; Yellow Danvers.

PARSNIPS.—Hollow Crowned. The Student is new.

PEAS.—Daniel O'Rourke, extra early and fine, 2½ feet; Tom Thumb, productive, 8 to 10 inches; Bishop's Dwarf Prolific, 1 foot; Bishop's Long Pod, fine dwarf, 18 inches; Sangster's No. 1, 2½ feet, fine; Champion of England, for main crop, 5 feet; White Marrowfat, later and fine, 5 feet. Many new sorts are introduced this season but they need trial in this country.

POTATOES.—Ash Leaf Kidney, early, productive, and good; Early Cottage, is well recommended; Early Dykeman, is the standard sort around New-York.

RADISHES.—Early Scarlet Turnip; Long Scarlet Short Top; Scarlet Chinese Winter, good and keeps late.

SALSIFY or Vegetable Oyster, very good.

SPINACH.—Round Leaved, for early; Prickly, for winter.

SQUASHES.—Summer Crookneck, best early; Yokohama, fine, early and late; Turban, excellent, autumn and winter; Boston Marrow, fall; Hubbard, best, keeps well.

TOMATOES.—Large Round Smooth, early; Fejee, fall and winter, fine and productive; Pear Shaped, for preserves, etc. French Tree, late, stocky, curious.

TURNIPS.—Early Dutch, very early; Red Top Strap leaf, spring and fall; Yellow Swedish, Rutabaga, to keep.

WINTER CHERRY.—For sauce and preserves.

Books for Farmers and Others.

[Any of the following books can be obtained at the office of the *Agriculturist* at the prices named, or they will be forwarded by mail, *post paid*, on receipt of the price. Other books not named in the list will be procured and sent to subscribers when desired if the price be forwarded. All of these books may be procured in making up a library. We indicate our opinion of their value by one or more Stars.

American Bird Fancier	$0 25
American Farmer's Encyclopedia	5 00
American Weeds and Useful Plants....**	1 50
Allen on the Culture of the Grape	1 00
Allen's (R. L.) American Farm Book*	1 00
Allen's Diseases of Domestic Animals	75
Allen's (L. F.) Rural Architecture....*	1 25
Barry's Fruit Garden....***	1 50
Bement's Poulterer's Companion....**	2 00
Bridgeman's Fruit Cultivator's Manual	60
Bridgeman's Young Gardener's Assistant	1 50
Bridgeman's Kitchen Garden Instructor	60
Bridgeman's Florist's Guide	60
Brandt's Age of Horses (English and German)....*	50
Breck's Book of Flowers....*	1 25
Browne's American Poultry Yard	1 25
Buist's American Flower Garden Directory	1 25
Buist's Family Kitchen Gardener....*	75
Burr's Vegetables of America....*	4 50
Chorlton's Grape-Grower's Guide	75
Cole's (S. W.) American Fruit Book....*	75
Cole's Veterinarian	75
Dadd's (Geo. H.) Modern Horse Doctor	1 25
Dadd's (Geo. H.) American Cattle Doctor....*	1 25
Dana's Muck Manual for Farmers	1 00
Downing's Cottage Residences....**	2 50
Downing's Fruits and Fruit Trees of America....***	2 00
Eastwood on the Cranberry....*	50
Employment of Women—By Virginia Penny....*	1 50
Every Lady her own Flower Gardener	25
Fessenden's American Kitchen Gardener	25
French's Farm Drainage....*	1 25
Field's (Thomas W.) Pear Culture	1 00
Fish Culture	1 00
Flint (Charles L.) on Grasses....**	2 00
Flint's Milch Cows and Dairy Farming....***	2 00
Fuller's Strawberry Culturist....*	10
Fuller's Grape Culturist.... **	1 25
Goodale's Principles of Breeding.. .**	1 00
Gray's Manual of Botany and Lessons in one Vol..***	2 50
Gray's How Plants grow	1 00
Guenon on Milch Cows	60
Hall's (Miss) American Cookery	1 00
Haraszthy Grape Culture &c.	5 00
Harris' Insects Injurious to Vegetation, plain....**	3 50
do. do. do. do. colored plates.**	4 50
Herbert's Hints to Horsekeepers....***	1 25
Johnson on Manures....**	1 00
Kemp's Landscape Gardening	2.00
Langstroth on the Honey Bee ....**	1 25
Loudon's (Downing's) Ladies' Flower Garden....*	1 50
Lenchar's How to Build Hot-houses	1 25
Liebig's Lectures on Chemistry	50
Linsley's (D. C.) Morgan Horses	1 25
Manual of Agriculture by G. Emerson and C. L. Flint.	1 00
Mayhew's Illustrated Horse Doctor ...***	3 00
McMahon's American Gardener.....*	2 50
Milburn on the Cow and Dairy	25
Miles on the Horse's foot	50
Mistakes of Educated Men....**	60
My Farm at Edgewood....**	1 50
National Almanac and Annual Record....**	1 50
Norton's Scientific Agriculture	75
Our Farm of Four Acres.. (paper 30c.) bound....*	50
Onion Culture ...***	20
Pardee on Strawberry Culture	75
Parsons on the Rose	1 25
Pedder's Farmer's Land Measurer	50
Phantom Bouquet, or Skeleton Leaves	1 00
Phin's Grape Culture	1 25
Quinby's Mysteries of Bee Keeping....**	1 25
Randall's Sheep Husbandry	1 25
do. Fine Wool Sheep Husbandry	75
Rand's Flowers for Parlor and Garden....**	2 50
Richardson on the Dog	50
Richardson on the Hog	25
Robins' Produce and Ready Reckoner	60
Shepherd's Own Book, Randall & Youatt	2 00
Skillful Housewife	25
Smith's Landscape Gardening	1 25
Spencer's Education of Children**	1 25
Stewart's (John) Stable Book	1 25
Tobacco Culture ...***	25
Todd's (S. E.) Young Farmer's Manual....**	1 25
Tucker's Register Rural Affairs ....*	25
Turner's Cotton Planter's Manual	1 25
Watson's American Home Garden....***	1 50
Warder's Hedges and Evergreens	1 25
Yale College Agricultural Lectures	50
Youatt and Spooner on the Horse	1 25
Youatt and Martin on Cattle	1 25
Youatt on the Hog....*	75
Youatt on Sheep	75
Youmans' Chemistry....*	1 25
Youmans' Household Science....***	1 50

Commercial Notes.

The following condensed, comprehensive Tables, made up to March 14th, show the transactions the past month.

1. TRANSACTIONS AT THE NEW-YORK MARKETS.

Receipts.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
24 days *this* m'th	201,000	46,500	147,000	6,100	91,000	222,000
28 days *last* m'th	308,000	26,500	191,000	6,500	68,000	282,000

Sales.	Flour.	Wheat.	Corn.	Rye.	Barley.
24 days *this* month,	432,000	2,501,000	1,154,000	16,500	287,000
28 days *last* month,	415,000	3,891,000	1,833,000	13,400	98,500

2. *Comparison with same time last year.*

Receipts.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
24 days 1864	201,000	46,500	147,000	6,100	91,000	222,000
24 days 1863	235,000	41,000	173,000	57,000	78,000	294,000

Sales.	Flour.	Wheat.	Corn.	Rye.	Barley.
24 days 1864	432,000	2,501,000	1,154,000	16,500	287,000
24 days 1863	350,000	1,810,000	2,031,000	139,000	121,000

3. *Exports from New-York Jan.* 1. *to March* 16.

	Flour, bbls.	Wheat, bus.	Corn, bus.	Rye, bus.	Oats bus.
1864	390,081	3,076,924	51,905	255	5,307
1863	514,740	3,156,890	1,398,054	59,106	96,382
1862	619,675	2,091,781	2,712,801	305,005	6,408

The Current Price Table shows the present value of the principal agricultural Products, with variations from last month. There has been little excitement in the Breadstuff Markets during four weeks past, the prices rising and falling with the premium on gold, which, on March 9th rose to 169, but is again down to 160. The foreign demand for Breadstuffs is fair, about consuming the surplus in market.... *Wool* was depressed for a time, but is more active now.... *Provisions* are not in large supply, and are firmly held.... The Markets of all other kinds of produce are steady at the quotations below.

CURRENT WHOLESALE PRICES.

	February 18.	March 15.
Flour—Super to Extra State	$6 25 @ 7 20	$6 30 @ 7 10
Super. to Extra Southern	7 65 @11 00	7 00 @11 00
Extra Western	6 85 @11 50	6 75 @11 00
Extra Genesee	7 25 @ 9 25	7 15 @ 9 00
Superfine Western	6 30 @ 6 50	6 30 @ 6 55
Rye Flour	5 50 @ 6 50	5 50 @ 6 30
Corn Meal	5 35 @ 6 25	5 28 @ 6 20
Wheat—All kinds of White	1 75 @ 1 95	1 75 @ 1 95
All kinds of Red	1 56 @ 1 75	1 60 @ 1 74
Corn—Yellow	1 20 @ 1 24	1 25 @ 1 27
Mixed	1 27 @	@ 1 31
Oats—Western	91 @ 93	90 @ 91
State	90 @ 92	89 @ 90½
Rye	1 28 @ 1 33	1 27 @ 1 30
Barley	1 20 @ 1 45	1 28 @ 1 55
Cotton—Middlings, per lb	81½@ 88	77 @ 78
Hops, crop of 1863, per lb	25 @ 35	23 @ 32
Feathers, Live Geese, p. lb	63 @ 68	63 @ 65
Seed—Clover, per lb	14 @ 14½	13 @ 13½
Timothy, per bushel	3 00 @ 3 25	3 00 @ 3 25
Flax, per bushel	3 25 @ 3 50	3 37½@ 3 55
Sugar—Brown, per lb	11¾@ 15	12½@ 15½
Molasses, New-Orleans, p.gl	65 @ 75	68 @ 80
Coffee, Rio, per lb	33½@ 34	35 @ 37
Tobacco—Kentucky,&c,p.lb	15 @ 35	15 @ 35
Seed Leaf, per lb	16 @ 50	16 @ 50
Wool—Domestic fleece, p. lb	72½@ 85	68 @ 83
Domestic, pulled, per lb	65 @ 78	60 @ 77
Wool, California, unwashed	25 @ 55	25 @ 55
Tallow, per lb	12½@ 12¾	12¾@ 13
Oil Cake, per tun	49 00 @55 00	48 00 @53 00
Pork—Mess, per bbl	21 00 @23 75	22 00 @23 75
Prime, per bbl	16 25 @18 25	18 25 @20 50
Beef—Plain mess	12 25 @14 50	13 00 @15 50
Lard, in bbls., per lb	13 @ 14	13 @ 13⅛
Butter—Western, per lb	21 @ 30	25 @ 34
State, per lb	28 @ 34	32 @ 40
Cheese	13½@ 17	15 @ 18
Beans—per bushel	2 60 @ 3 00	2 60 @ 2 80
Broom Corn—per lb	08 @ 10	8 @ 10
Eggs—Fresh, per dozen	28	26 @ 27
Eggs, Limed, per doz	22 @ 24	20 @ 21
Poultry—Fowls, per lb	16 @ 18	15 @ 18
Ducks, per lb	18 @ 20	18 @ 22
Geese, per lb	10 @ 12	11 @ 13
Turkeys, per lb	16 @ 20	17 @ 20
Potatoes—Mercers, p. bbl	2 25 @ 2 50	2 25 @ 2 50
Buckeyes per bbl	1 75	1 50 @ 1 75
Peach Blow, per bbl	2 00 @ 2 25	1 75 @ 2 00
Nova Scotia, per bushel	50 @ 60	55 @ 65
Turnips—Ruta baga, per bbl	1 00 @ 1 25	1 00 @ 1 25
Onions, Red & Yellow p. bbl.	5 00	5 00 @ 6 00
Cabbages, per 100	8 00 @11 00	7 00 @11 00
Dried Apples, per lb	08 @ 11	7½@ 11
Dried Peaches, per lb	24 @ 25	25 @ 28
Dried Raspberries, per lb	24 @ 26	24 @ 25
Apples, choice, per bbl	3 00	2 75 @ 3 00
Apples, mixed lots, per bbl	2 50 @ 2 75	2 00 @ 2 50
Cranberries, per bbl	7 00 @ 9 00	7 00 @ 9 50
Prairie Chickens, per pair.	44 @ 50	45 @ 55

Live Stock.—*Beef Cattle* have been in moderate supply. March 9th, prices were higher than we ever knew them before; the best cattle selling at prices equivalent to 16 cents per lb. for the estimated dressed weight, and from that down to 13c.@11c. for the poorest grades. This week prices are down 1 to 2 cents per lb.... *Cows* are very high; it is a poor animal that does not bring $45 to $50, if a fresh milker.... *Sheep* are in fair demand at 8c. to 8½c. per lb. live weight.... *Live Hogs* are rather scarce, and sell quickly at 8¼c. per lb. for good corn-fed.

Containing a great variety of Items, including many good Hints and Suggestions which we give here in small type and condensed form, for want of space elsewhere.

Basket Running Over—Personal Letters. — Scores of queries are answered in the Calendar, Basket, and other parts of this paper, without referring to the letters directly.—Still, many other items ready prepared, are crowded over to next month, by the lengthy Calendar of Operations required at this opening season of work.—Letters asking personal information are too numerous to be answered "by first mail"—if at all. We can not give advice for pay, on patent matters, implements, etc.—having not a spare hour to sell at any price. Some such letters would require many hours of study or investigation, and yet do not contain postage for the reply.

Erratum.—In March, p. 68, under "Present to Sanitary Fair," read N. P. Boyer & Co.,—not Burger.

The Strawberry Plants—When Sent.—A few recent inquiries indicate an expectation on the part of some, that the "Agriculturist Strawberry" will be distributed this spring. We have already stated that owing to the excessive drouth last autumn, the plants did not multiply as rapidly as in ordinary seasons. We have over an acre set out, but every plant taken up now, would materially lessen the production, and it is certainly better for all, that they should stand where they are, until the latter part of August, when the distribution will begin on a large scale. We shall, therefore, not send *any* until August. We have 50,000 to 60,000 names entered for them, which will probably all be supplied in August and September, beginning in the order the names stand on the subscription books. If the growing season proves favorable, probably a good many thousand more may be supplied. Every subscriber for the entire present volume, who desires the plants, will be supplied as early as may be, if the 5 cents for postage and packing material be furnished; but late applicants *may* have to wait over—we hope not.

Boxes for Mailing Plants.—The note last month has called out at least a score of ingenious contrivances, and more are constantly coming in. The plans already received make it certain that a form will be brought out which will be of great value, not only in the mailing of our own strawberry plants securely and conveniently, but one which will be of great practical use to the country. A simple, cheap packing-box will put it in the power of residents at the most distant points to receive almost all varieties of plants cheaply and safely by mail from any part of the country. When the best form is developed, we shall publish an engraved description.

Names Wanted.—Letters enclosing money for the *Agriculturist*, or for books, sometimes come without address, and sometimes without signatures. In either case we cannot be blamed for not filling the order. Names are wanted for letters from Siloam, N. Y., Reading, Pa., Westerville, O., Homer, O., Coulterville, Ill., Erwina, Pa., Wolcott, N. Y., Newville, Pa. Other letters are without any mark. How many misdirected letters or those undirected, are wandering around, we can not tell.

Tobacco Culture—Onion Culture.—These two books are models of what might well be published on each important topic of agriculture and horticulture, and they far surpass any thing else published on the same subject. The *Tobacco Culture* contains the plain, practical directions, as given by 14 experienced growers residing in different parts of the country, who each aim to give in a clear style, *all* the particulars, from selecting seed and preparing ground, to curing and marketing the crop. Not a necessary item is omitted. The modes of curing, packing, etc., are shown by engravings. We send it post-paid, to any address, for 25 cents; it is worth its weight in silver to any one raising the smallest plot of Tobacco.—The *Onion Culture* is on a similar plan, containing in brief space, as the subject is less difficult, the directions of 17 experienced growers. It will be found very valuable to every one raising even a small plot of onions, while it shows the profitable modes of growing on a large scale. We send it post-paid for 20 cts.

The Grape Culturist, by A. S. Fuller, the well known Practical Horticulturist. This long promised work is at length issued. It forms a neat volume of over 260 pages, and is amply illustrated with upward of 100 engravings. This treatise covers the whole ground of garden and vineyard culture, from starting the plants from eyes or cuttings, to the established fruiting vine. The whole is told in a plain style and from the author's own experience; his system of pruning is very simple and easily understood, and the reasons are given for preferring it to others; he, however, gives the other modes in practice, and illustrates the whole in the most liberal manner. The descriptions of varieties are brief and pointed, and the list of valuable sorts is properly made very brief. The volume contains a list of all the works upon the grape heretofore published in this country. This most useful manual, will be equally valuable to the one who cultivates a single vine, and to the vineyardist. We can send it post-paid by mail, on receipt of price, $1.25.

Sundry Humbugs.—Our drawer for these is crammed full of letters, circulars, etc., from all parts of the country, but we are again without any room for details. Here are a score of different "Prize Packages;" Jewelry, sold for 25 cts. to $1 each, without regard to value, (called $5 to $500 each,) or 100 parcels for $15 to $20 and a silver(?) or a gold(?) watch thrown in. A lot of these examined, we find made up of the trashiest stuff. Don't touch them—neither "soldiers," for whom they are put up, nor others. Here are some fifteen different "agencies" of various lotteries in Kentucky and elsewhere, which will be non-come-at-i-bus when they get your money.—"Confidential" Coupons for Jewelry prizes, etc., from M. B. Dean, and Lindsay & Co., (some of them sent on to us for collection).—A lecturing "Professor" on Fruit Trees.—Alexander Van Witter, of Cairo, N. H., who offers to lie about a ticket in some sham lottery.—The Franklin Musical Benefit Association.—The "express package" waiting for the owner to send the swindler money for 'expenses'.—Madame Somebody's embroidery depot, with jewelry premiums.—Ticket "1649" again; this time from Alexander Thompson, of Canaan, Me.—Cure for Intemperance.—"Splendid engravings;" with jewelry and other prizes, etc., etc., etc., etc., etc

Are Oats a Poor Crop to Raise?—The Ohio Farmer quotes the opinion of two first-rate cultivators "that oats are the meanest grain raised; that the yield is very uncertain, one of the hardest crops for land, and when raised they are not intrinsically of as much value for stock feed as other staple crops." Let us have the facts, pro. and con.—theories can be made afterward.

Hen Manure for Corn.—"A. W. C.", Fond du Lac Co., Wis. Mix hen manure well with an equal bulk of earth, and put a handful to each hill at the first hoeing. As you have plaster it may be used quite liberally with the earth. Leached ashes may be used with the manure; unleached should be applied alone.

Hop Culture.—This plant may be profitably raised on any good corn land, but it should be well enriched. A southeastern exposure is preferable, and a hill or wood in the direction of prevailing high winds essential. The ground should be deeply plowed, harrowed fine, stones and sods taken off or buried, rolled, and marked off five feet each way. The hop plants are male and female. In planting, every eighth hill in every eighth row is set with male plants. The sets are underground stems taken off with a spade near the hills in an established hop yard, cut in pieces of 5 or 6 eyes each. Male and female sets are kept separate, and 3 bushels to an acre is the quantity used. The planting of a new yard should be made as early as the land can be well prepared—before the first of May if possible.

Hops—Wild and Cultivated.—W. S. Van Meter, Coles Co., Ill. The hop grows wild over a large part of the United States. Cultivation has given rise to several well marked varieties, some of which are doubtless more productive than any wild ones likely to be found. Still for family use the wild are very good.

Origin of the Potato.—H. F. Sharer, 3d Army Corps. The potato is a native of various portions of tropical America. There is some doubt as to who first introduced it into Europe. It is said that Sir Walter Raleigh took it to England in 1586, while others suppose that it was sent from Peru to Spain much earlier.

A Potato Planter.—An implement for cutting and planting potatoes was recently exhibited before the Maine Board of Agriculture, who appointed a committee to examine and report upon its merits. One of the members (not on the committee) commends it as worthy of attention. We shall hear more of it, if it plants successfully. The *cutting* needs intelligent skill.

Application of Manures.—The best mode of using manure was discussed at a recent session of the Maine Board of Agriculture, and most of the members gave their experience in favor of applying it near the surface, slightly covering with plow or harrow. This accords with experiments made under the auspices of the Massachusetts Ag'l Society, as noted in the *Agriculturist*, Vol. XXII, page 234; August number, 1863.

Home Made Fertilizers.—"William," residence not given, states that he highly manured an acre of garden and sold $29.50 worth of manure, from the accumulations of a family of three. Will he please state how he did it, and the value of the whole product?

Will White and Red Clover and Blue Grass succeed in Iowa? H. A. Stiles. The clover will, doubtless. Blue grass will probably not do so well as further south. We shall be happy to hear from readers of the *Agriculturist* experienced in this matter.

Pumpkins vs. Squashes.—"Which is the best feed for stock, pumpkins or squashes?" "W. L.," Kalamazoo Co., Mich. The names pumpkin and squash are convenient to distinguish between the coarser and finer kinds of this fruit. Neither can we say that under "pumpkin" we include all the coarse kinds, for some of the great "squashes" so-called, have the coarsest flesh of the pumpkin family. No accurate distinctions can be made between them. So we should say: when there is no obvious difference in the quality, thickness, sweetness and fineness of flesh, thinness and want of bitterness in the rind, then that kind is best, which produces most pounds, whether called by one name or the other.

Horses Wanted.—According to the statements in General Halleck's last report, the cavalry service of the army, on an average, requires horses enough to remount the whole force once in two months. At this rate, some 400,000 horses will be needed the present year. The low grade of the animals furnished in many cases, accounts for their speedy breaking down; want of proper care ruins more, and the balance are used up by service and the fortunes of war. The horse market promises to be pretty good in this country for a year or two to come.

Spring-halt in Horses is a nervous affection for which there is no cure known. At times it is more violent than at others, but a horse that once has it thoroughly never recovers. It is usually observed more at starting than subsequently, and in many respects is like St. Vitus' Dance or *chorea* in the human subject.

To Stop a Runaway Horse.—A subscriber in Rippowam, Conn., sends the following: "Take a small but strong cord, tie one end into a loop (*not* a slip noose), pass it over the horses head, and attach it rather loosely to the throat latch, so that it will not fall down too low. The other end of the cord is passed to the carriage within easy reach of the driver. When the horse runs, and can not be stopped by the reins, pull upon the cord, hard enough to stop his breathing; he will soon stop—indeed *he must stop*. So soon as he stops, slack up the cord and quiet him by soothing words and kind treatment. There is no danger of his falling, as he will stop long before he becomes exhausted, and will brace himself on his feet so long as he has strength—the cord being slackened as soon as he stops, will relieve him. This simple remedy may be applied to any horse which is in the habit of running away; he will very soon connect cause and effect together, and after a few trials, will be entirely cured. Kicking, backing, and other vicious habits yield to the same remedy when judiciously employed. I hope your readers may not only try this plan but report the results in the *American Agriculturist*."

Root Grafting.—A subscriber at Chester Co., Pa., writes that he considers this method as having two advantages over budding. The graft placed partly below the surface will throw out roots of its own, and add to the vigor of the tree; and the roots being taken out of the ground to be grafted, they can be inspected and all diseased or deformed ones rejected. The writer states that with him the roots of apple seedlings have become much diseased, some of them covered with a species of aphis, and others with warts, which when cut open show a watery, semi-transparent substance, having an unpleasant odor. He wishes to know if the disease has appeared elsewhere, and the cause and remedy. ...."Green One." The cuts on page 20 (January) represent simply a tongue cut upon the slope of the stock and graft. There is no piece cut out, but the tongue is represented as lifted, to show its form more distinctly.

Downing's Mulberry.—E. E. Brown, Jones Co., Iowa, and J. C. Bowers, Warren Co., N. J. This is fine flavored, but too soft for marketing; probably not hardy in Iowa. Some western writers put this down among the humbugs. It is good around New-York. Everything depends upon climate. To be had at nurseries.

Transplanting Old Fruit Trees.—J. Rucklas, Adams Co., Ind. Almost any tree can be successfully transplanted, provide sufficient care be taken to keep the roots uninjured, and afterward to prune properly. Where, however, the trees are of large size it is usually much better to set out young trees and wait for the growth; they will be more profitable in a few years.

Tree Protectors.—In reference to those noticed on page 37 (February), Mr. E. T. Bouthorpe, of Norfolk Co., Mass., says he has used protectors of the exact pattern there described, but made of zinc. They were eight inches long and twice the size of the tree. The protector was set for half its length in the soil and the space between it and the tree was loosely filled with dirt. When used on young growing trees, the protector should be taken up once or twice during the season to prevent the earth from becoming packed by the growth of the tree and bursting the joint. Mr. B. considers these metallic tubes as a perfect protection from the borer and has not been able to discover a trace of one upon trees thus guarded.

Borers—Unhealthy Trees—Early Dropping Fruit.—There are so many letters asking upon these subjects that we can only give a general answer. If trees are unthrifty in good soil and with good culture, and if fruit fails to perfect without any assignable cause, it is highly probable that borers are at work. These are usually in the trunk of the tree near the ground. The first thing to be done is to get rid of the insects which have already penetrated the tree. Examine the trunk carefully, close to the roots, removing the soil for the purpose, and if any holes are found probe them with a piece of whalebone and crush the insects. Having made thorough work with these, then measures should be taken to prevent the access of any others. Various preventives have been suggested and they are all alike in principle, which is to oppose some obstacle to the parent insect and prevent it from depositing its eggs. One piles stones around the base of the tree, another puts a mound of ashes there,—others use a wrapping of paper, cloth or tarred paper; a coating of grafting clay has been recommended, and lastly we have the tree protectors noticed in another item, and in the February *Agriculturist* on page 37. No doubt that either of these would prove effective if properly applied. Whatever is used, the protection should extend around the trunk several inches below the surface, as the borer often penetrates the trunk below the soil, and works several inches or even a foot above it.

Double Working of Pears.—H. Ziemeyer, Cass Co., Ill. Some varieties of pears which do not succeed on quince stocks, can be made to do so by budding or grafting them into some other variety which is already on quince and which is known to grow well on it. Such a pear tree is said to be "double-worked."

Quince Trees that Drop their Fruit.—"D. B.", Williams Co., O. Possibly your trees are troubled with borers. Examine the trunk around the roots, and if any holes can be found, probe them out and head back the trees and thin the head. Do not let suckers grow from the base of the trunk, to exhaust it.

Black Knot in Plum Trees.—C. H. G., Philadelphia, has several trees affected with black knot, and wishes to know if it will do to graft them. This will depend upon how far the knot has affected the vigor of the tree. If the trees are generally healthy, and the knot only on the small limbs, we should graft them. The knot is a parasitic plant and not a discase, though if present in abundance, it will make the tree unhealthy. All affected limbs in the vicinity must be cut off and burned, or it will soon become established on the grafts.

"Winter Currants."—E. W. Knight, of Warren Co., N. Y., reports a variety of currant which retains its fruit until after a number of hard frosts. If picked in season they keep fresh until wid-winter. Not knowing the variety, we would like cuttings for trial.

Depth to set Fruit Trees.—D. D. Smith, Rhode Island. Four inches below the surface is fully deep enough to set the upper roots of fruit trees. If you fill in around growing trees to the depth of six inches, they will probably receive a severe check as this will bring the roots too far from the surface warmth and air.

Evergreen for Hedges.—J. S. Parks, Blue Earth Co., Minn. The Norway Spruce would probably answer your purpose better than any other evergreen. Thorburn & Co., of this city, advertise the seeds and they are doubtless kept by other large dealers. But two or three years' time is saved by buying the plants, which are advertised cheaply every year.

Hedge Plant for New-Jersey.—C. H. Perrine, Mercer Co., N. J. We should be disposed to try the Honey Locust in your locality. The plants can be started from the seed which is sold at the stores. They should be soaked in warm water for 12 hours before sowing. A fine specimen of this hedge can be seen at Reid's nursery at Elizabeth, N. J.

Arbor Vitæ for Hedges.—"E. A.", Southington, Conn. This makes a good shelter, but is not a very strong hedge to turn stock; will grow in any good soil. It should be planted two or three feet apart, and trimmed to the desired form in early summer. Sometimes the plants will die out without any apparent cause, and leave a gap which is difficult to fill. For this reason the Norway spruce is preferable, and it bears pruning remarkably well.

Dwarf Apples.—Geo. W. Sear, of Tioga Co., Pa., says the Paradise stock is of "no account." Apples grafted on the Doucin stock will give slow growing, partly dwarf trees, which may be pruned to a pyramidal shape, but which give fruit no sooner than standards. In his opinion the best stock for dwarfing the apple is the common wild crab, which by hardiness and every other good quality, is perfectly adapted to the purpose. It should be grafted or budded at the collar. "The varieties succeeding best on the Doucin are Early Harvest and Red Astrachan, for early; Late Strawberry, for autumn; Baldwin and Wagener, for winter. The last named is the best of all."

"Caper Tree."—Miss E. F. Brown, of Long Island, referring to a note in the December "Basket," sends a specimen of what is called 'caper tree' there. The plant sent is *Euphorbia Lathyris*, or Caper Spurge, a biennial about 2 feet high, sometimes cultivated for ornament. It belongs to a very poisonous family and we doubt if the pickled seeds would be a safe article of food.

Grapes in Spring.—A box of fine, plump Catawba grapes in prime condition received from Josiah Carpenter, commission merchant of this city, March 1st, proves conclusively what has often been asserted, viz.: that grapes can be kept in good condition until spring. Mr. Carpenter receives and sells about 300 lbs. of similar grapes per week, for J. W. Prentiss, of Steuben Co.. N. Y. They bring 30 cents per lb. wholesale, and often 50 to 60 cents at the fruit stands on Broadway. Mr. P. keeps them in an even, cool temperature, and sends them to market in mild weather packed in thin wooden boxes 1 foot long, 10 inches wide, and 6 inches deep, (10 lbs. per box) with coarse paper for a lining.

Injury to Grape Vines by Cold.—Dr. H. Shroder, of Bloomington, Ill., sends the result of his examination of his vineyard. All his vines which were protected by a covering of litter escaped injury. The Catawbas—except some on sandy land, with a southern exposure—were killed to the ground; some of the vines on trellises, which were thrown down by a storm, uninjured. Dr. S. thinks that the Catawba cannot stand over 22° belnw zero in quiet weather, and with such a storm as that of last January, 18° below is all they will endure. His last year's plantings of single-eye Delawares were entirely killed, as well as the Isabellas. With the thermometer ranging from 23° to 29° below zero, the following varieties proved hardy: Hyde's Eliza, Taylor, Mary Ann, Naumkeag. American Hamburgh, Raisin, Empire, Marion, Sage, Urbana, Michigan Mammoth, Hughe's Wine Grape, Garrigues, Mottled, and the *Concord*. Like all western cultivators, Dr. S. speaks in the highest terms of the Concord. The grapes enumerated by Dr. Shroder as being hardy, are, except the Concord, not considered worth cultivating in this region.

Grape Queries.—C. H. G., Philadelphia, and H. Z. Bolivar, Md. Vines 6 or 8 years old are seldom worth moving, especially if they have been neglected. Make layers of last year's wood and remove them when rooted, or get new vines at once....T. P., Alleghany City. A layered vine well rooted is just as good as one obtained in any other way. Most of the layers sold are carelessly made, and unless sure of the quality, it is safer to buy vines started from cuttings....H. Eaton, South Reading, Mass., Directions for grafting the grape were given in the September *Agriculturist*. It is best done in autumn, but may be done very early in spring...George J. Yost, Columbia Co., Pa. The circular trellis made according to plan sent, may answer as an ornament, but as it does not allow the vine to be trained upon any regular system, is not to be recommended....W. N. Cooley, Hampden Co., Mass. A strong vine four years old and properly trained ought to bear 72 hunches, the weight will of course depend upon the variety....H. Trimeyer, Cass Co., Ill. The varieties of grapes inquired about are many of them so new, and their cultivation restricted to so few localities that it is impossible to say how they would do with you. An account of the others is given in a letter from Mr. Husmann, on page 114. The Iona, as far as is known, is a first class fruit. The Anna has some good qualities, but it has so many bad ones, among others its late ripening, that many cultivators have discarded it.

Testing Seeds.—By trying field and garden seeds before sowing, much disappointment may often be prevented. All doubtful seeds, whether left over from former years or recently purchased, should be proved. This may be done in several ways: Count a portinn of seed and plant it in a box or pot of fine soil kept damp in a warm room. The number of plants which appear will show the proportion of gnod seed. The same result may be obtained by placing the seeds between the folds of a damp cloth and putting this between two plates to prevent evaporation; or by tying them in a cloth and burying them in the soil of a hot-bed. The seeds will sprout in a few days, and thus show the proportinn of good ones.

Cold Frames, etc.—To "Subscribers." A cold frame is like a hot-bed without the manure to create heat. It is set directly nn fine mellow soil. The heat is derived from the sun, and the heat as well as moisture are kept in by the glass. It is of great help in forwarding seeds, but they should not be planted until April. A *Hand-Glass* is a small contrivance for a similar purpose, made with glass top and sides, or of a wooden box with a pane of glass at the top. A *Cold Pit* is a sunken frame covered with sash In which half hardy plants are kept during the winter.

Transplanting Boxes.—A note in the Feb. *Agriculturist* has called out a number of suggestions. H., of Quincy, Ill., uses cylinders nf sheet zinc, 4 inches high and 3½ inches in diameter. These are without bottoms, and are set closely in a shallow box of convenient size, filled with soil, and a few seeds put in each.....A. Ricker, Hancock Co., Me., makes boxes of ¾ stuff, 6 in. long and 3 inches wide and deep. These are made without bottoms and are set on pieces of board large enough to hold six boxes. The boxes are filled with earth, the seeds planted and the whole set under glass to start. In transplanting, the board with the boxes is taken to the place, a hole is made large enough to receive a box, one is slipped off into the hole and the earth drawn around it. The box is loosened with a few slight raps and lifted out, leaving the roots undisturbed. Mr. R. starts peas, cnrn, squashes and cucumbers in succession in the same boxes....H. G. A. A., of Mystic Bridge, Conn., uses a box 18x26 and 20 inches high, sloping like a hot-bed frame. This is covered with sash and has a movable bottom. Any of these contrivances may answer the purpose where flower pots can not be obtained, but we do not see that they possess any advantage over the latter.

Horse-Radish Roots.—E. Haynes, Cuyahoga Co., O., dug a horse-radish root striking down 4 feet perpendicularly and farther, for when breaking off at that point it was as large round as his little finger.

Tomatoes and Peach Borers.—J. G. Robinson, Cambridge, Md., says that he finds that peach trees near which tomatoes grew, were entirely free from borers, while other trees in the same garden were much injured, two of them being killed by the borers.

Fine Mushrooms.—Simpson Gordon, of Vanderbilt Avenue, Staten Island, is very successful in cultivating this luxury. Magnificent specimens grown by him have been placed upon our Exhibition Table, during the past month, as well as samples of very vigorous looking spawn. Some mushrooms grown in flower pots attracted much attention. He has left some spawn cakes for sale at Lane's Purchasing Agency.

Strawberry Notes.—H. L. Frontenac, wishes to know if it will do to plant strawberries in sandy loam where a quantity of stable manure has stood. Yes, if the ground is well worked ...Wm. Cottew, La Salle Co., Ill. The "Tribune Strawberries" are not a humbug. They are all of good quality, here at least....J. A. Ruggles, Bristol Co., Mass. You will probably find the runners between the old and new plants already disconnected, or at least dead. Take up the new plants and put them elsewhere and keep the runners from both new and old, if you wish to get the best crops. ...Geo. W. Sears, of Tioga Co., Pa., states that after trying some thirty varieties, he can get all desired results from two sorts. He recommends the Jenny Lind for early, and Triomphe de Gand for the main crop; or instead of these, the Bartlett and Austin; or Early Scarlet and La Constante. The Wilsnn he discards as being too sour and uneven in size. The Hovey is with him as productive as the Wilson, and a better berry.

The Jonquils do not Flower.—H. N. Adams, Cheshire Co., N. H., is troubled by the blasting of buds. This is generally a free blooming plant. The trouble may arise from a late frost, a weakness of the plant, or from the crowding of the roots. Try covering with litter, and keep it on until the weather becomes settled. If they have been a long time in the earth, take them up when the leaves have withered, and keep them out of the ground until October, and then set them singly. Some make the mistake of cutting off the leaves as soon as the flowers fade; this is wrong, as it weakens the bulbs.

Sowing Auriculas.—L. Bischoff, Fond du Lac, Wis. These are to be sown in pots or boxes of fine rich earth, and covered very shallow; place in a gentle hot bed. When up, the plants need to be shaded from the hot mid-day sun, and to have plenty of air.

Hybrid Perpetual Roses.—Several who have asked for a list of roses, will find in the following a selection of the best growers, and those which can be obtained at most nurseries: Alexander Bachmentoff; Auguste Mie; Barronne Prevost; Cardinal Patrizzi; Duchesse de Cambaceres; Enfant du Mont Carmel; General Jacqueminot; Glory of France; Jules Margottin; Lady Stewart; Lord Raglan; Madame Rivers; Pius IX; Triumph of the Exhibition.

"The Seed Humbug."—A Subscriber in Pittsburgh, Pa., wishes the *Agriculturist* to pitch into gardeners and seedsmen in general, because they advertise floral novelties with attractive descriptions, which upon trial disappoint those who have been at the expense and trouble nf procuring and growing them. If any reader of this paper has gone rashly into untried new things, he has done so against often repeated advice, and can not blame us. Nor do we consider the seedsman at fault for selling an unsatisfactory new plant, any more than the bookseller is for selling an uninteresting new book. Both dealers send orders to Europe for a supply of every new thing in the line of their trade, and new seeds as well as new books are sold by *their titles*. Many of the seedsmen are careful to state in their catalogues that the descriptions of new varieties are taken from their foreign growers. Among the new things introduced each year there are some really valuable, while others, and it may be a majority, are worthless. Every one who tries new flowers, vegetables or fruits, runs a certain risk, and he has his choice to do this, or wait until some nne else has proved the things for him. The regular seedsmen as a class are honorable dealers, and have no desire to deceive; they give the best information they can get about their wares, and if they do not equal the expectations of the purchasers, the seller is not always censurable.

Carrot Seed.—How to Clean.—H. A. Cook, Columbia Co., N. Y., wants to know how to remove the burr from carrot seed. Most of the seed (all the American seed we believe) comes to market with the burrs on. It is said that the seed may be cleaned by subjecting it to hard rubbing in a bag with sharp sand.

Black Currant Beverage.—Messrs. Shimer & Gregory, Carroll Co., Ill., write to the *American Agriculturist* that an excellent fermented drink (sometimes mis-called wine) may be made from black Naples, and black English currants, superior to the fermented juice of most other fruits, except grapes. The bushes are easily cultivated and yield abundantly, and the fruit gives a very rich juice....Mrs. C. H. Freeman, Bay Co., Mich., uses 1gal. Black Currant juice, 3 gallons water, and 16 lbs. good sugar.—Says that this currant will pay to cultivate, if well manured and cared for. She gets 50 per cent more juice than from any other currant....C. W. Kellog, of Munroe Co., Wis., takes equal parts of black and red currants, and uses the compound juice as above; considers the result better than from the red.

Poisoning by "Rye Coffee."—W. B. Waldo, Dutchess Co., N. Y., sends an acconnt of the severe illness of a German, his wife and four children with all the symptoms of poisoning by ergot. It was found that the family had been in the habit of drinking copiously of "rye coffee" three times a day, and the ill effects were, with strong probability, attributed to the presence of ergot in the rye used to make the drink. Ergot was figured and described on page 105, April *Agriculturist* of last year. People drinking rye coffee, should prepare it themselves and be sure that it is free from ergot.

"Australian Coffee."—Several inquirers. This is nothing but a kind of chick pea, raised in large quantities in some sections of the West, and extensively advertised under various names. $1 per hundred seeds as asked for it, *if obtained*, would make it a profitable crop. We once paid 2 cents each for 50 kernels to find out its nature. It is one of the humbugs.

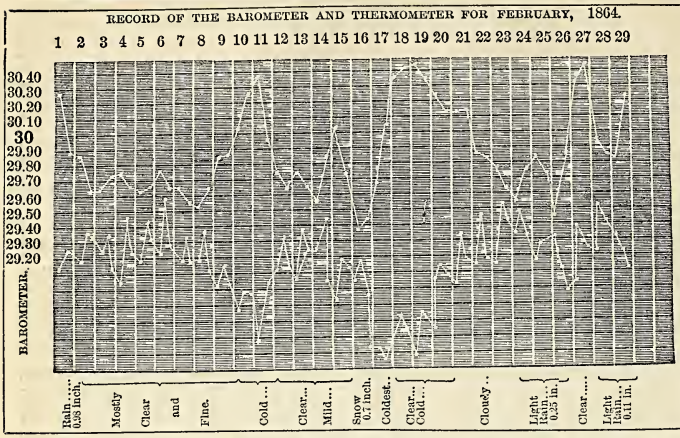
Saleratus for Insects.—Wm. Cottew, La Salle Co., Ill., writes to the *American Agriculturist* that if smoked hams be washed clean and rubbed well with saleratus, a coating will be formed which insects will not penetrate. We have not tried it.

Mich. State Agricultural College.—This institution has opened its yearly session under better auspices than ever before. Its corps of professors are earnest working men, and the facilities for imparting a good English and scientific education are ample. It will be seen by reference to the advertisement published last month, that students from other States are admitted at a moderate charge. Circulars may be had by addressing the President, Prof. T. C. Abbot, Lansing, Michigan.

The Farmer's Oracle.—This is the title of a weekly agricultural paper, published at Spring Lake Villa, Utah Co., Utah. Though of moderate size, and as yet printed on indifferent material, it is evidently wide awake. It makes good selections from other papers and keeps up with local matters. Success to it.

Western Colony.—The Ottawa Indians of Kansas, among whom are several readers nf the *Agriculturist*, want to sell 30,000 acres of their reserve to actual settlers, and have delegated their U. S. Agent to collect colonies of moral people to go out in April. His address is Box 3949, New-York.

Botany for Children.—C. Phillips, Wapello Co., Iowa. The best child's book on botany is Gray's "How Plants Grow." It is as simple as a story-book, and is a most excellent elementary work. Price by mail, $1. Dana's Elementary Mineralogy, is a standard work, but not suited to *very young* children, nnr do we know of any one on the subject that is thus adapted.



NOTES.—Light falls of snow on 3d, 8th, 9th, 17th; slight rain-fall on 2d, 14th, 24th, not measurable—Zodiacal light clearly observed, 5th and 9th.—Aurora Borealis on 12th.—Lunar Halo on 21st.—Two Rainbows on 24th.—The amount of rain and melted snow is given in the table at the times on which it fell. The very accurate reports we now give, are furnished us by Prof. O. W. Morris, of the Deaf and Dumb Institution in this city. A parallel system of observations is taken at the Office of the *Agriculturist*, but situated as it is in the *heart* of the city, they are necessarily less accurate, owing to local influences.

Have You Tried Pots for Plants?—

We have often urged in the columns of the *Agriculturist* the great advantage and economy of using small earthen pots for starting all kinds of garden stuff, flowers, etc. The smallest sizes can be bought in many localities for 60 cts. to $1.25 per 100, and they will last many years. Fill a large number of these with earth, and plant one or more seeds in each. Set them on the warm side of a fence or building; water as needed, and cover on cold nights or days with old carpets or blankets, or with straw. By this be done two to four weeks in advance, the earth, with the well-started plants, may be transferred to the open ground as soon as it is fully warm, and the growth will hardly be checked. With a very little trouble one may thus get a good supply of early vegetables, two to four weeks in advance of open ground sowing or planting. Peas, corn, cucumbers—in short, every kind of vegetable and flower, may be started thus. By inverting the pot—with the hand upon the earth, the plant passing between the fingers—the ball of earth will drop out upon the hand unbroken. See full directions and engravings, if needed, in the April *Agriculturist*, 1862 (Vol. 21, p. 117).

Remember the Soldiers.—

The Grand Army of the Nation is gathering up its strength for what will be the greatest and, we trust, the final campaign of the war. Daily almost, regiments of soldiers pass our office, moving South. Each of these regiments is made up of many hundreds of patriots, our brothers, sons, and friends, who are objects of interest and solicitude as we follow them in thought to their distant camps and battle fields. A thousand such regiments are in the field, or going there. The U. S. SANITARY COMMISSION is organized to send with them, and to them, as many home comforts as possible—comforts for the sick, the wounded, and the well. Shall we not fill its storehouse, and provide that its treasury shall lack nothing that will aid in this great work? Chicago, Cincinnati, Boston, Philadelphia, and other cities have done nobly. Brooklyn, with its $400,000 Fair, has eclipsed all others, thus far. March 28th opens the Great Fair of this Metropolis of the Continent, which will doubtless eclipse any thing of the kind that the world has ever seen. The London International Exhibition was but a bauble in comparison, when we consider the object and results. It will be worth a long pilgrimage to see and participate in this Fair. But these Fairs will not accomplish all that is desirable. A million dollars is scarcely more than a single dollar for each soldier.—Last month we invited our readers to unite and raise a fund among the great AGRICULTURIST FAMILY. The responses are beginning to come, in sums of $1 and upward. A Delaware subscriber, for example, sends $1 for himself, and $9 more, from his own pocket, "for nine others who ought to be subscribers to the fund, if not to the paper."—Some write that they have already strained every nerve in home efforts. But can not another dollar or more be spared, or be collected in small sums, in pennies, and half-dimes, for this good work?—Please read over what was said last month, page 72, and then join in this special subscription.—Let the boys and girls take hold of the work. Let some child in every family begin at once to collect little sums from parents, friends, and neighbors, until at least a dollar is made up.—We are not afraid to guarantee that the money will be well used.—We have great faith in the efforts of children. In London we visited a Sunday School where the expenses of the school and enough to support a day school for the poor, besides two Home Missionaries, and a considerable sum annually for Foreign Missions, is all raised by 130 collectors. Many of these collectors are only eight to twelve years old. Our own country Sunday School collects over $200 a year in the same way. Every one of our young readers can thus collect a dollar or two for the "AGRICULTURIST SANITARY FUND," and the work will do them good. How many of them will have a place in our list? We shall probably add an extra sheet or two to give the names together when they are mainly in, and so we take none of the present crowded space to acknowledge the sums already received.

For the Sanitary Fund.—

Many interesting letters accompany the contributions sent to us, which we would gladly print, and which we shall treasure up as pleasant reminiscences of the enterprise.—Here is one containing a $13 family contribution from Sunman, Ind.; another from G. C. P., and family, of this city, enclosing the proceeds of silver saved since the beginning of the war, and others of similar character.

New-England Agricultural Society.—

A meeting was recently held at Worcester, Mass., by leading Agriculturists of the New-England States, at which a general Agricultural Society of that section was organized, with the following officers: *President*, Dr. George B. Loring, Salem, Mass.; *Vice Presidents*, E. Holmes, Winthrop, Me., F. Smythe, Manchester, N. H., Daniel Kimball, Rutland, Vt., Wm. H. Prince, Northampton, Mass., T. S. Gold, West Cornwall, Ct., and Amasa Sprague, Cranston, R. I.; *Secretaries*, Charles L. Flint, Boston, Mass., and Henry Clark, Poultney, Vt.; *Treasurer*, Thomas Saunders, Brookfield, Vt. Five Trustees were also elected as executive committee, one for each State. Exhibitions are to be held in the different States in rotation, commencing with Massachusetts. An address was delivered by Prof. S. W. Johnson, of New-Haven, Conn.: Subject, the objects of such an organization, and the means of promoting agricultural progress.

Cattle Breeders' Association.—

At the annual meeting of this Society (Worcester, Mass., March 2d), the following officers were elected: *President*, H. H. Peters, Southboro; *Vice Presidents*, Thomas Sanders, Brookfield, Vt.; E. N. Jameson, Antrim, N. H., J. J. Webb, Hamden, Conn.; S. L. Goodale, Saco, Me.; E. D. Pearce, East Providence, R. I.; E. H. Hyde, 2d, Stafford, Conn.; *Secretary and Treasurer*, H. A. Dyer, Hartford, Conn.; *Chairman of Committee on Pedigrees*: Short Horns, S. W. Buffam, Winchester, N. H.; Devons, H. M. Sessions, S. Wilbraham, Mass.; Aryshires and Herefords, H. H. Peters, Southboro; Jerseys, John Brooks, Princeton. The various committees on Pedigrees were authorized to receive, examine, and on approval to record pedigrees of all animals offered with accompanying fee of fifty cents for each animal. The executive committee were constituted a committee of appeal on mistake in pedigrees, required to give them due attention, and if necessary, to report to the Society. The next annual meeting will be at Worcester. Everything was spirited and harmonious.

Michaux' Sylva.—

This is a fine and standard work upon the forest trees of North America. There are five large volumes with numerous colored engravings. The first three are translated from Michaux, and the illustrations are from his original plates: the other two volumes are by Nuttall and include many rare trees from California and Florida. The publication of this magnificent work has been suspended for some years, and it is now very scarce. A new copy has been left for sale at this office. Price $70.

"Vineland Lands" Again.—

Last year (in May) we gave the result of some hasty observations, made at that locality, which were not the most favorable. In February of this year we admitted as an advertisement the views of Mr. Robinson, of the Tribune, which were in high praise. We have now before us a circular entitled "*Information Concerning Vineland, N. J.*", by Alexander Cole, cor. Sixth and Chestnut Streets, Philadelphia, which gives a picture directly opposite that set forth by Mr. Robinson. Mr. Cole claims to speak from experience as a purchaser and settler, and seller-out, at Vineland. We are not sufficiently acquainted with the matter to decide between these conflicting views. It may be well for those interested in the matter, to read all sides. Application to Mr. Cole, with or without a stamp or two to cover expenses, will secure a copy of *his* circular. Very strong statements on either side of any question require to be taken with allowance.

Bring out the Rags.—

They are scarce and high now, the paper makers say, and so they put up their prices terribly—higher than ever before, with a single exception. It costs us more than $4000 for each number, for the white printing paper alone. The good housekeeper will consult her own interest, and that of publishers also, by hunting up and selling all their paper rags.

Martynia Pickles.—

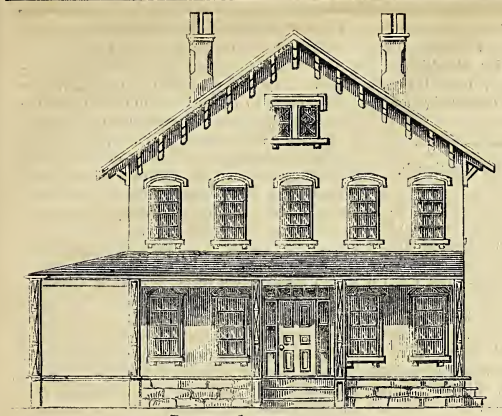
The Martynia described and illustrated on page 113, yields a pod which properly prepared makes a most excellent pickle. Mr. Daniel Willis, Long Neck, Richmond Co., N. Y., communicates to the *American Agriculturist* the following particulars of his manner of preparing them: He has cultivated and pickled them for three years past, and is now supplying all the principal Hotels in New-York City with pickles, which we have tried and know to be excellent. The pods are picked while they are yet soft enough to be easily penetrated with the thumb nail, and thrown into brine made strong enough to bear an egg. They are ready for pickling in ten days, or may be kept in the brine longer. If this be done, the brine should be changed about once a month, or often enough to prevent the pickles from softening. When wanted to pickle, they are taken from the brine, washed in cold water, and soaked in vinegar two or three days. Then add about 2 lb. of sugar to 1 gallon of vinegar, with cloves, allspice or other spices to the taste; tie them in a bag and let them soak in the vinegar until the strength is extracted: heat the vinegar to boiling and pour upon the Martynias, which should previously have been removed from the vinegar in which they were soaking, and placed in a cask or other suitable vessel. After a few days they are ready for use.

Getting the Editor's Picture.—

The writer of this (who superintends making up the paper,) last month slipped in an item which he thought would satisfy those who had applied for the likeness of the Proprietor. But requests continue to come, both from Individuals and Illustrated Journals. One wide-awake Western lady found out a way to obtain it thus: She wrote "Tell Mr. Judd that from long reading the paper we feel pretty well acquainted with him, morally and intellectually, but we want to see his face, if we can't take him by the hand. We have imagined him 'good-looking', but after what was said in the March *Agriculturist*, we shall believe him a *'real homely man'* if he don't send his photographic *carte de visite* for our table. I guess he will, and not to ask it without a recompense, I send along two subscribers. Won't a small premium on these meet the expense?"—Such a *homely* home-thrust as this was not to be parried, and so the lady got *two* pictures for the two subscribers, an ordinary photograph, and a vignette. She evidently understood human nature, and knew two vulnerable points—the face and the pocket. Perhaps this establishes a precedent which it may be necessary to follow in other similar cases. F.

Spring Wheat.—

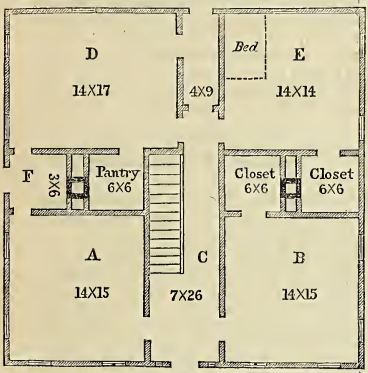
In Taylor Co., Iowa, the varieties of wheat sown are chiefly Scotch Club and Fife, though many regard the Black sea as a more certain crop.



PLAN NO. 1—ELEVATION.

Dwelling Houses—Plans and Suggestions.

An intelligent New-England mechanic, R. W. Woodville, Hampden County, Mass., forwards two good house-plans, and some excellent hints on building. He writes: "I send you two plans for dwellings, which you may publish should they possess sufficient merit. I am a practical builder, and have given much study to the class of dwellings coming within the means of the middle and poorer classes. In travelling through thirteen States and the Canadas, I have found the greatest ignorance to prevail in regard to the first principles of house-building. Many think that long, low, narrow houses with many "L"s, and continuations, are the most convenient and cheap which can be built. A little thought will change such erroneous views. A cardinal principle in building dwelling houses, is to get the greatest area of floor with the least lateral extent of walls—so that the rooms will be as nearly square as possible, and near each other. They should be of easy access, with large closets, and so arranged as to avoid passing through one room to reach another. The chimneys should be placed so as to accommodate as many rooms as possible, and stand opposite the centers of the rooms. No one should commence to build until a plan has been decided upon which has had the most careful study, so as to avoid any alteration after the work has commenced. Thus, much expense, and no little vexation to the architect or carpenter will be saved. Never build a story-and-a-half house unless the house is to be quite small. Small houses cost more in proportion than large ones. Chambers in a half-story are necessarily low, disfigured and inconvenient, by having a large portion cut off by the roof, and are usually poorly lighted and ventilated. A two story house costs but little more, requires no more floor, length of walls or roof. The extra cost is in four or five feet more in hight and a few windows, while the well lighted symmetrical and convenient rooms, the strength of the roof and outside appearance, will more than pay the extra cost. The roof of a story-and-a-half house, is apt to sag, and spread out the walls, as the "plates" can not be "tied" together.

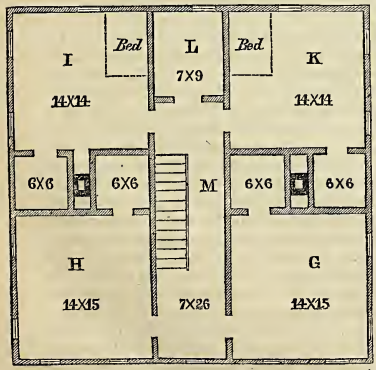


PLAN NO. 1—MAIN FLOOR.

REFERENCES.—*A*, Sitting-room; *B*, Parlor; *C*, Front entry and stairway; *D*, Kitchen; *E*, Bed-room; *F*, Entry.

In building chimneys, always start from a solid stone foundation on the ground, and run them up straight if possible; carefully avoid resting any part on the timber-work, as the part below might settle and leave an opening into the flue, and burn the house. The size for common flues should be about one foot square, thoroughly plastered or cemented all over inside. Never plaster upon the chimney as part of the wall of a room, but lath over it if you would have no unsightly cracks when it has dried.

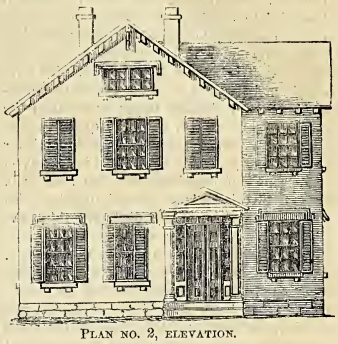
Please compare No. 1, and "Jack Plane's" house (in Dec. No.) which is on the long plan, (and which he thinks is about all that is desirable). Let both be built of the same material, and style of finish, and the square plan will cost but a mere trifle more, will have eight feet *less* in length of outside walls, with 738 square feet more in floors (attics not reckoned). Observe the difference in the number, size, beauty and convenience of the rooms, in closet room, in location of chimneys, etc. There is no wood-room in the first story of either plan, a room in the basement, which if properly made will be sufficiently dry, being designed for fuel.



PLAN NO. 1—SECOND FLOOR.

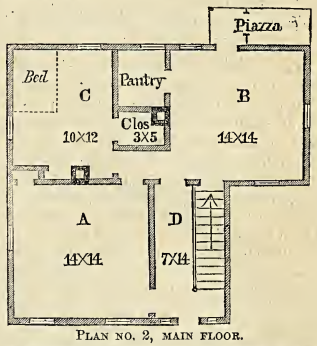
REFERENCES.—*G*, Guest's bed chamber; *H* and *K*, Bed-rooms; *I*, Nursery; *L*, Store room, or small bed-room.

Plan No. 2, is designed for a smaller family, where less cost is necessary, yet it is compact, and conveniently arranged with good closets and cupboards. Please criticise both plans." [We have sketched two elevations to accord with the plans—introducing a ten-foot verandah in the larger plan, and have modified the plan, in introducing a side door to open upon the verandah, and a door connecting the kitchen with this entry; under some circumstances this might



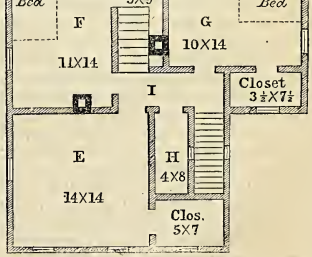
PLAN NO. 2, ELEVATION.

make it worth while to omit the back door altogether; more than two outside doors are undesirable in this latitude. The ornamentation is very substantial and simple; and scarcely more expensive than the usual casing to the eaves.]



PLAN NO. 2, MAIN FLOOR.

REFERENCES.—*A*, Sitting room; *B*, Kitchen; *C*, Bed-room; *D*, Front entry and stairway.



PLAN NO. 2, SECOND FLOOR.

REFERENCES.—*E*, Guests' bed room; *F*, and *G*, Bed-rooms; *H*, Store room.

We have few criticisms to make. The plans are excellent for their purposes, but we think No. 1 would be more generally valued with back stairs and servants' rooms in the attic.

Experience with Potatoes—Best Sorts—Large and Small Seed.

E. Williams, Essex Co., N. J., communicates to the *American Agriculturist* the following observations and experiments upon potatoes: "For years past the Mercer potato has been the standard variety used in this and the adjoining counties. When the Peach Blow came out, it was tried to considerable extent, but soon discarded on account of its late maturity, not ripening soon enough to allow seeding the ground to grain. The Prince Albert and Fluke have also been tried, and are now grown to considerable extent, yielding better crops than the Mercer and usually of very fair quality, sometimes first rate. I grew "Prince Albert" for three or four years, but abandoned it in 1860, on on account of detcrioration. The identity of these two varieties is a mooted question with some. If they are really distinct, I think the Fluke the best quality, having tested some grown by my neighbors; Prince Albert, as I grew it, was a little *strong*. Believing 'like will produce like,' I have long been convinced of the propriety of using large seed. But the diversity of opinion, and some published views in favor of small seed, indueed me in 1860 to experiment with different sized seed, to get at the *facts*. The following is the result with Mercers:

NO. OF ROW.	DESCRIPTION OF SEED.	YIELD PER ROW. QTS. PRIME.	QTS. CULLS.	TOTAL.
1st—	Small—cut in 2 to 4 pieces	16	19	35
2d—	Small—whole	16	23	39
3d—	Large—cut to 2 or 3 eyes	19	13	32
4th—	Large—cut in two—small ends	13	17	30
5th—	Large—cut in two—large ends	16	18	34

"It will be noticed that the *best* yield was from No. 3, the *largest* from No. 2, which had an excess of small potatoes. The small seed was about the size of pullet's eggs. For the last three years I have cut my seed to one or two eyes.

"In 1862 I obtained of Rev. C. E. Goodrich, of Utica, N. Y., four of his seedlings, and annex the yield, compared with other sorts, two rows of each being planted in the same field:

VARIETY.	Qts. Primes.	Qts. Culls.	Total Yield.
Prince Albert	50	9	59
Jersey Mercers	54	7	61
Nova Scotia Mercers	87	22	109
Peach Blow	54	22	76
Garnet Chili (Goodrich Seedling)	74	6	80
Coppermine " "	120	13	133
Pink-eyed Rusty Coat " "	112	32	144
Cuzco " "	144	16	160

"The ground on which these grew I measured accurately, to ascertain the rate per acre they yielded. The result is as follows: Prince Albert, 88 bu. 6 qts.; Jersey Mercers, 91 bu. 18 qts.; Nova Scotia Mercers, 163 bu. 20 qts.; Peach Blow, 144 bu. 3 qts.; Garnet Chili, 120 bu. 3 qts.; Coppermine, 199 bu. 21 qts.; Pink-eyed Rusty Coat, 216 bu. 6 qts.; Cuzco, 240 bu. 7 qts. So well pleased was I with the Goodrich potatoes that I planted but little else last season, and from basket measurement of a few rows while digging, to compare with the yield of 1862, I think they exceeded it, although planted on the same ground and in an unfavorable season. The soil was only medium. One of my neighbors thinks that the Cuzco will give 400 to 500 bushels per acre, on good soil, with good culture. They are really quite hardy, though not entirely exempt from rot, as claimed by some. The Rusty Coat is probably the least liable of any, and Coppermine the most. As to the quality, people's tastes differ as widely as on fruits, some preferring one, some another. They are all of fair quality, to say the least. Rusty Coat is a little rank in the fall, but good in mid-winter and spring. Cuzco will suit people who are willing to take a second rate potato with bountiful yield in preference to a first rate one and little yield. I consider them a valuable acquisition, and Mr. Goodrich is, I think, entitled to something more than the thanks of the agricultural community for his efforts in this direction."

Diphtheria in Hens at the South.

F. H. Squire, M. D., Surgeon of 89th N. Y. Volunteers, writes to the *Agriculturist*, from Folly Island, S. C., describing a disease of poultry resembling diphtheria, which attacked several of his hens, some of them fatally. The affected fowl showed great languor, frequently stretched her head upward and forward, at the same time opening her mouth widely. After these movements the head would settle back again towards the body, and she would apparently fall asleep for a little while. She died in two days. He says: "I examined the mouth and throat very carefully. On the inside of the right cheek, especially at the corner of the mouth, was quite a patch of the genuine, false membrane of diphtheria, which I cleaved off with a probe. On opening the mouth widely and looking into the throat, I saw that the opening of the windpipe was filled up with the same kind of yellowish substance. I then removed the skin from the neck, and with a pair of scissors, divided the windpipe about two inches below the throat, where it appeared to be perfectly healthy. I now worked toward the throat, cutting off piecc after piece of the windpipe, until I obtained from this direction a view of the false membrane which was blocking up the air passage at the chink of the glottis. After I had in this manner thoroughly exposed the situation of the disease, I took a probe and gently separated the false from the true membrane, and then removed it, as one would remove a cork from the mouth of a small vial. The specimen thus removed, looks like a section, half an inch long, of a tube of whit-leather. It is about a third of an inch in its external diameter, and the opening through it is very small, only large enough to admit a little filament of broom corn, by means of one of which it is now suspended in a small vial of diluted alcohol.—If the disease is seen early, as soon as the hen begins to gape and cough, I imagine the throat would only have a kind of pearly or milky appearance; and at this stage I would simply apply in the throat a solution of nitrate of silver, two grains to the ounce of water. When the disease is far advanced, and the false membrane is thick, I would try to remove it with a probe or a pair of small forceps."

Abortion in Cows.

The frequent occurrence of abortion in cows, amounting in some localities almost to an epidemic, calls for investigation to discover if possible the causes which now appear to be very little understood. In Herkimer Co., N. Y., great complaint has been made of the prevalence of this disorder, hundreds of calves having been lost in this manner last year. A committee was appointed by the Little Falls Club, to visit the farms where many cases had occurred, and to collect all the facts apparently bearing on the disease. No theory previously entertained respecting the difficulty, seems to have been sustained by their observations. They report cases occurring under under many different circumstances, some where the cause might be attributed to foul stables, others to ergot upon their feed, but others were found where these supposed predisposing circumstances were absent. It appears probable that there is danger in allowing an affected cow to remain with the herd, as other cases are pretty sure to follow apparently from sympathy. Whatever interferes with the general good health of the animal would seem to expose her to the disease. Beyond these general facts, little appears to be known, and the subject is worthy of extended observation and careful study.

To Keep Flies from Working Cattle.

D. H. Sherwood, Fairfield Co., Conn., communicates to the *American Agriculturist* his plan for repelling flies from cattle when at work. Take a piece of scantling 3x4 inches and a few inches longer than the yoke. Through this bore four holes to correspond with the bow holes in the yoke. Have bows long enough to extend five inches above the yoke. After the oxen are yoked, put this piece on the top of the yoke, letting the bows come through the holes. Bore several small holes in the sides of the above piece, and fasten in brush long enough to reach the oxen's hips. The brush should be of some tough wood with the leaves on. When it is worn out put in more. Some use blankets for their cattle while working, but it makes them unnecessarily warm, and costs something at present prices. The motion of the oxen while walking will keep the brush waving about enough to keep the flies away.

Treatment of Bloated Sheep.

L. Davis, Lynn Co., Iowa, writes: "In nearly all cases where I have seen an opening made in the side of the sheep, as recommended by a writer in the January *Agriculturist*, page 7, it has proved fatal to the sheep. The best remedy I know of, and which has often proved successful, is to have a hose-pipe of leather or India rubber, of small diameter, at one end of which is placed a metal ring, to keep it open. This is let down to the stomach through the mouth. To prevent the sheep biting it, and so closing it, let the hose run through a piece of wood, and insert this in the sheep's mouth."

New Food for Sheep.

At a recent meeting of the Maine Board of Agriculture, Dr. Weston called attention to the subject of feeding sheep on fish. He stated that sheep, swine, and fowls, greedily eat fish pomace or the residuum of herrings after the oil is pressed out, and that smoked alewives and frost-fish are relished by cattle. On the seaboard where large quantities of fish pomace are used for manure, flocks of turkeys feed upon it and get fat, but a fishy taste is imparted to their flesh. Undoubtedly this food will abundantly furnish the elements for meat; careful and observing farmers who have fed it, assert that it is of equal value with good hay, ton for ton. The objection to this treatment will probably be found in the impaired flavor of the meat so made. It is well known that this varies even with the character of the pasture in which animals are fattened, and so great a change as that here proposed may have a marked and not very improving effect. Perhaps, however, a finishing off feeding of two or three weeks be-

fore slaughtering may produce the usual flavor of the flesh. Experiment alone can decide.

Setting Fence Posts.

Among the special annoyances at this season is the perpetual heaving of fence posts by the frost. When this occurs badly, the expense and trouble of fencing is much increased. A correspondent of the *Agriculturist*, A. J. Taylor, of Bradford Co., Pa., states his mode of setting posts in soil which heaves badly. He writes: "I have had experience in fence-making, have tried different ways, and I think the difficulty alluded to can be entirely obviated thus: Dig a small hole 10 or 12 inches deep, drive down a crow-bar to the depth of about 1½ feet further, insert the post [sharpened doubtless,] and drive it thoroughly with a beetle, chinking up in the usual way around the post with stones [so that no soil comes against the post at the surface]. The post is set deeply in the ground, below the action of the frost, and the stones prevent the earth from freezing to it and drawing it out. Though it has been about eighteen years since some of my posts were first set, they have not been drawn out by the frost, and have only to be straightened up and re-chinked."

Cultivation of Barley.

The barley crop occupies a place in the regular course of cultivation in England, which it has never attained in this country. In a comparatively few localities here it has been grown for many years, but some have abandoned it for various reasons, and over large districts there are farmers who have never tried it, or perhaps even seen it growing. This may be, in part owing to the fact that for its best growth it requires a soil specially adapted to it, but in part, we judge, because it has not been "the custom" of the neighborhood. Some think that the short hot summers of this country are unfavorable for this grain, but this objection would apply equally to oats and grass. It is, like wheat, liable to attack from the midge, which has also to some extent prevented its continued cultivation.

The Transactions of the N. Y. State Agricultural Society for 1861, give a report of a crop raised by Daniel Dryer, Ontario Co., N. Y., which shows that under favorable circumstances it may be profitable. 4 1-5th acres of corn stubble were enriched with 20 loads of stable manure spread on the clayeyest part of the field. The whole was plowed eight inches deep and sowed the last week in April with ten bushels of 6-rowed (commonly called 4-rowed) barley. The land was harrowed both ways and then rolled. About 500 lbs. of plaster were sowed before all was up. The crop was harvested the first week in August, and yielded 198 bushels, which was sold at 50 cents per bushel. At this low figure the profit on the crop was $62. The soil of the field was a sandy loam, a portion of it clayey.

Barley suceeeds best on a light sandy or gravelly loam; a compact clayey soil is better devoted to wheat. It does not thrive on sod ground, but follows corn well. Those who consider oats too exhausting for lands of this description, might find barley a good substitute. The 6-rowed variety is esteemed the hardiest, though the 2-rowed is generally preferred in this country, because of its superior fullness and freedom from smut. A variety recently introduced called Nepaul Barley, described and illustrated in the *American Agriculturist*, Vol. XX, page 261, is highly recommended by those who have tried it. It yields well and the grain is very heavy; one of our subscribers reports having raised some weighing 71 lbs. to the bushel. It should be sown as early as the ground can be properly prepared. From 1½ to 2½ bushels per acre is the usual quantity of seed, according to the character of the soil, the most being used on the best land. Smut may be prevented by soaking the seed in a solution of blue vitriol and water, the same as for wheat. After soaking, dry off the seed with slaked lime or plaster and sow immediately.

Peas as a Field Crop, Cultivation, etc.

It is a reproach upon American Farmers that (excepting clover) we have so neglected the *Leguminous* plants, as field crops. True, we raise white beans where we think nothing else will grow—when we are belated about getting in spring grain, or where crops fail in spots; but peas, lupins, lentiles, vetches, and to these may be added, crimson clover, lucerne, sanfoin, melilotus, etc.—are almost unknown to American agriculturists. This ought not so to be. Of them all, *peas* offer the most attractions perhaps. They will thrive upon any good corn or wheat soil, delighting most in clayey loams, but doing well on calcareous soils, if used for feeding.

This is an excellent crop to put upon a fresh turned sod, free from bad weeds. If the sod be heavy it need not be manured; otherwise, apply a reasonable dressing of manure. Sow the peas as early as the ground can be worked, after pouring scalding water upon them, in quantities not exceeding 6 quarts of seed together, little more than covering them with water, letting them soak 8 to 12 hours, and drying them with plaster. This scalding operation kills the "pea bug," a weevil which lays its eggs just after the blossoms have fallen. The grubs penetrate the pods and locate each in an embryo pea. Here they mature and remain till sown with the peas, when they appear and make their attacks at the proper time. Though unnoticeable at first (and not injuring green peas), they detract much from the value of the crop. Peas for seed should be sowed late—after June 12th—and will thus escape injury almost, if not wholly.

The common Yellow Field Pea is usually cultivated, and the Marrowfats are also recommended. Those which make a very rank growth of straw are undesirable. Sow 2 to 3 bushels to the acre, broadcast, and plow the seed under about 3 inches deep. After plowing it is well to roll the land, but if the ground is likely to bake, it may be "dragged" with a harrow turned over. The haulm of the peas is so branching and tangled, and the roots are drawn from the soil so easily that, when the crop is mature, a revolving hay rake will easily throw it into windrows. It is best to leave till dry in heaps, which may be protected from rain by hay caps. The crop is fed to hogs or cattle without curing, when the peas are nearly ripe; ripe and threshed, the grain is excellent fatting feed for cattle, horses, sheep, or hogs, and the straw, well cured, is similar to clover in feeding properties and is a favorite fodder for sheep.

Peas are off the ground early enough to prepare the land for wheat, which follows very well, and this will be found a very excellent crop to introduce into a rotation, either before or after wheat. Thin sowed peas lodge badly, but when sowed thick they stand by holding on upon one another by their tendrils. The use of lime and gypsum, though advantageous to the crop, make the peas hard when boiled,—the same is partly true of peas raised on lime soils.

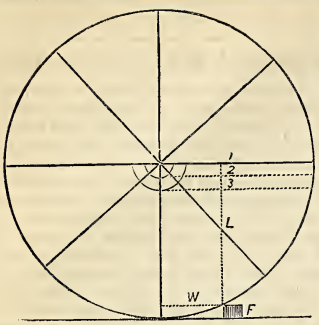
Concentrated Manures—Tests of Value.

There are now many kinds of concentrated fertilizers in market, but the energies of speculators are turned into other channels, and the systematic frauds upon farmers which were practised a few years since are now less annoying. The demand for such manures, however, is great, and the supply small. Farmers are thrown upon their own resources—and to great advantage to themselves, doubtless.

The test of value almost universally received as reliable, is the *test in the soil and upon the crops.* This is almost *uniformly fallacious* when applied to mixed commercial fertilizers, because with the majority of these manures there is mingled a little guano, or ammonia in some form, which always produces a quick effect. Then too, the circumstances of soils differ greatly, and a few dollars' worth on one soil will produce a great effect, while on soils in general, no corresponding benefit is observed. The farmer should know something of what his soil needs before he purchases. He feeds his animals roots (or a *few* farmers do), corn-fodder, hay, corn, shipstuff, bran, oats, corn meal. Some of this is fed to the cows, some to the hogs, some to the poultry, and so on. He would not be a wise man who would mix all kinds of feed together and give it out indiscriminately to hens and horses, sheep and swine. The man would be equally foolish who would buy feed ready ground and mixed, without knowing about how much of each kind of grain the mixture contained. We should all consider a farmer insane who would buy for hog or chicken feed, a mixture of corn-fodder, hay, saw-dust, etc., mingled in uncertain quantity, with grain, ground and unground, because somebody claimed to have fed it to old pulled-down cattle and that they did well on it. Yet this case is exactly parallel with that of the man who, on the strength of some published recommendatory certificates, buys poudrette, superphosphate, tafeu, and a score of other fertilizers, without any idea of the needs of his land or his crops. No one doubts that there is good in both these mixtures—the feed and the manure. The chickens might thrive on the mixed feed by picking out a good deal of grain and grass seed, and the crops might flourish on the mixed manure, but no one can argue for the *economy* of the practice.

There are certain kinds of concentrated manures which a farmer can afford to buy, in order to increase his stock of fertilizers not alone by what they add to the soil, but by the use he makes of them. Hair, woolen rags, castor pomace, glue waste, and such things, composted with sods, muck, or the like, convert the mass into an excellent, fine, well-rotted manure. Knowing what he wants, the farmer can buy that which he can best get to answer his purpose. Lime, gypsum, bones, unleached ashes, leached ashes, each produce certain effects more or less definite, which may be calculated upon with considerable certainty.

The test of manures, in the soil and upon the crop is reliable when we apply simple manures or those of known and uniform composition, upon very similar soils, and under the same or very similar circumstances of weather, seed, preparation of soil, etc. The *chemical test* is not properly a test of value, but simply a test of *composition.* The chemist tells what a manure contains, and the farmer must judge whether he can or can not buy the ingredients cheaper in some other form.



Wagon and Carriage Wheels—Large or Small Axles.

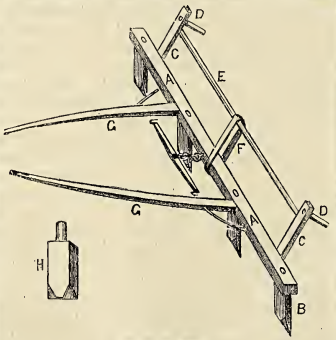
The questions on this subject in recent numbers of the *American Agriculturist*, are exciting considerable attention, but no more than is deserved, as will be seen from some of the facts presented below. Several communications from practical men have been received and more are invited. We have space the present month for only the following, from Henry Harper, Green Lake Co., Wis.—: "The query of David Williams, in January *Agriculturist*, page 4, as to which has the most power for draught, a large or small axle, has been elucidated in the 4th and 5th Vols. of the Coach Makers' Magazine. A wagon wheel is nothing more or less than a lever power. The above question, then, is simply this: which of the two axles has the most leverage? The above diagram shows the operation of the lever power in a wheel: *L* is the lever; *F* the fulcrum that the wheel makes of the obstacle over which it is to be raised; *W*, the weight to be lifted; 1, 2, and 3 are the draught lines to the different sized axles, the draught always being from the bottom of the axle. To determine the power which the different sized axles have to lift the wheel over the obstacle, compare the length of the lever line *L*, from where it crosses the draught line, to the fulcrum F, with the *W* or weight line. In this case the lever line, *L*, is twice as long from the draught line 2, as the line *W*; therefore, one lb. draught on the line 2 will balance two lbs. over the obstacle. If the lines were of equal length, it would take a draught power equal to the weight to lift it over the obstacle. Any one can see how the different sized axles shorten or extend the lever line, *L*, and in the same proportion the power is evidently increased or diminished.

"It is a well established fact, that one pound draught will earn over $100 while a good, substantial wagon is being worn out. Then it is plain that, if one lb. of draught be lost by wrong construction, in wearing the wagon out there will be expended $100 worth of work without any compensation. Every body knows there is more or less difference in the draught of wagons. What the difference will average, no one can tell precisely, but it will not appear extravagant to say there is an average of five lbs. to 1000 lbs. load lost by the average construction of wagons. This would make an average loss of $500 on every wagon made. Suppose every wagon-maker averages the production of three wagons in one year, he then entails $1,500 loss on the community. Wagon and carriage makers have no more right to make a difference in the results of their wagons and carriages as to draught, under like circumstances, than Mr. Fairbanks has in his scales. Both articles depend on lever power; the power of the one is as susceptible of calculation, mathematically, as the other. If the farmer observes his own interest and acts intelligently by not patronizing mechanics who are content to remain uninformed about mechanism, he will remedy a great evil."

A Convenient Home-made Corn Marker.

Roswell R. Moss, Chemung Co., N. Y., contributes to the *American Agriculturist* the annexed illustration and description of a corn marker used by himself and neighbors: "It consists of a bed piece, *A*, of 3x4 oak joist, 11 feet long, in which teeth, *B*, are set 3 ft. 4 in. apart. The teeth are of oak, 2x4 and 12 in. long, exclusive of the tenons, which are 3 in. long and fitted to 2 in. auger holes in the bed piece. Uprights, *C*, of oak 2x2 in. and 2 ft. long in the clear, are set in the bed piece, 6 in. inside the end teeth, at an angle of 45°. Handles, *D*, are fixed in these 6 inches from the upper end. A cross-pole, *E*, connects the uprights in the middle, and is stiffened by a leather strip, *F*. Shafts, *G*, 8 ft. 9 in. long, are set in the bed pieces at an angle with the uprights, 4 ft. apart, at such an inclination toward each other that they will be from 15 to 18 in. apart at the other ends. They are braced by ½ in. iron rods, as is shown in the drawing. A hook is fixed in the middle of the bed piece, to fasten a whiffletree to. The cross-pole and shafts can be made of white oak or ash saplings. The teeth being chamfered to an angle in front, and the manner in which they are drawn over the ground, prevent the soil falling back into the mark. One of the teeth is shown at *H*. It can be made by any farmer possessing ordinary ingenuity, and at a trifling expense. It can be attached to any harness by using straps to hold the thills up.

It is used with a single horse, and a boy to ride, and a man or *smart boy* to guide. Get started in a straight line by a fence or flag, the guide having hold of the handle toward the fence. In turning, take hold of the cross-pole by the middle, lift the marker clear from the ground, have the horse come round as in cultivating, back to the edge of the field. Drop the



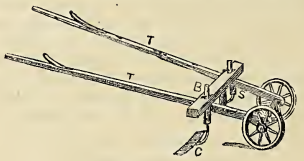
CORN MARKER.

marker so that the end tooth will fall in the outside mark, take hold of the handle over that tooth and start again, keeping the eye ahead to remedy any deviations caused by stones or lumps. A man and boy and a smart horse can mark twelve acres both ways in a day."

HE who is caught in a passion submits himself to be examined through a microscope.

How to Raise Carrots.

H. A. Cook, Columbia Co., N. Y., communicates to the *American Agriculturist* the following directions, which contain several good labor saving suggestions: "Moisten the seed and keep it warm four or five days, occasionally stirring it, until it is just ready to sprout, or quite sprouted. Just before sowing, usually about the middle of May, [no matter about the moon,] spread it out to dry a little, that it may be easily sifted through the fingers. Make the plot very rich and plow deep. Carrots will run down as deep as the soil will admit. Rake the plot clean preparatory to making the drills. Make a drag or marker with thills and upon them straps like those of a boot, to draw by, and four or five teeth 20 inches apart, a little sharpened and inclining backwards slightly from the perpendicular. Draw a line for a guide and go through with a tooth of the marker on it; in returning let



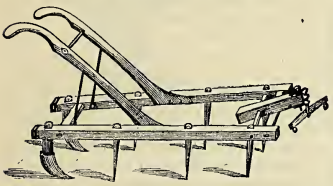
CARROT WEEDER.

the outside tooth run in the drill mark last made. Moist carrot seed can not be properly sowed with an ordinary seed drill. Hang a small cup on the fore finger of the left hand; hold a common dinner horn bottom up with the three lower fingers of the same hand. With the thumb and finger of the right hand sift the seed through the horn into the drill, no matter how much the wind blows. The horn being conical, if the seeds escape from the thumb and finger somewhat irregularly, they will bound along down to the vertex and come out very evenly. The seed should be perfectly clean. Let a boy follow and cover the seed with a hand rake, and another spat with a hoe, or draw a hand roller. If the carrots are not up in one week, the seed is not good. This point, however, may be known before sowing, by fully sprouting a small portion of them. The great trouble in sowing dry seed is, that the weeds get the start of the carrots and make double the labor. Carrots can be cultivated by one person with the implement illustrated above, as fast as three can work with hoes. Make the cross-beam, *B*, of 3x4 in. joist, 3 feet long. Let the thills, *T*, *T*, (which may be old rake handles) pass through it, slanting downward, and converging to about two feet apart at the lower end, where they are attached to the axles of the two wheels, which should be about one foot in diameter and made quite heavy to keep the implement steady when working. The uprights, *S*, are of wood, two inches in diameter, each strengthened with an iron ring or ferrule at the lower end, to receive the weed cutters. These cutters, *C*, may be made of old scythe blades. They should be 12 inches long, and have a neck like the shank of a hoe blade to enter the standards, *S*, where they are fastened by iron pins. The cutters should be placed so that the ends next the rows slant forward a little, with the edge slightly inclined downward. The neck being fastened on the under side of the blade, will help to prevent clogging. The knives should be kept sharp. This implement can be best used by taking hold

of the thills and walking backward. Some weeding close to the rows and thinning with the hoe and by hand will be necessary. The plants should be left about three inches apart in the row. To harvest the crop expeditiously, take an iron beamed plow and run it beam deep close beside the row. Sharpen a hoe and let a boy use it to cut off the tops, and at the same time draw them into the furrow. Run the plow through again covering the tops, and turn the row of roots bottom up. [Carrot tops are good feed for cattle, and will pay for saving for this purpose.—Ed.] With a potato hook rake out the carrots; cut off the tops from another row, and so proceed through the field. The carrots should be left in small piles three or four days before storing, or they are very liable to rot. In the above manner, with the aid of a boy fourteen years old, I have harvested 75 bushels of carrots in 7 hours. By thus plowing them out, the ground is left in very nice condition for the succeeding crop."

Corn Covering Implement.

The implement shown by the accompanying engraving has been for many years in use in parts of Pennsylvania, to the almost entire disuse of the hand hoe for covering corn. It is represented by our correspondent, J. A. Alexander, as easily made, and is thus described. "It is simply a small harrow; two pieces of 3x4 scantling, about 5 feet in length are joined by two cross bars; the width in front will be about 15 inches, and behind 13 inches. Handles are attached as they are to a cultivator harrow. For teeth, 6 common harrow pins, and 2



CORN COVERER.

cultivator teeth are used. These are put through the beams at equal distances—the two broad teeth being put behind—one in each beam, and within 4 inches of the ends. The clevis upon a piece of scantling about 4 inches square and 18 inches long, is attached by an inch and a quarter pin passing through both beams a few inches behind the front cross-bar so as to rest across it. It is drawn by a single horse. The corn is covered with the fine soil gathered from the edges of the furrow. If the ground is very mellow, there may be danger of covering too deep, and some of the teeth should be knocked back, or taken out. The corn may be dropped either in hills or drills, for it covers all alike."

G. W. Baldock, Clark Co., Ind., describes a much simpler implement for the same purpose, which he says is generally used in his neighborhood. It is simply a stone, somewhat in the shape of the letter V. It should be about 18 or 20 inches at the broad end, tapering gradually to a point, with a hole drilled near the point for a clevis or hook to be fastened, and also a hole in the broad end to receive a rope, by which to hold it steady, and to pull it around at the ends of the rows. Cross off the ground both ways, the first way shallow, the other way quite deep but not unreasonably so. Drop the corn and cover the way the ground was *first* marked off, by having a horse attached to the stone and driven after the dropper. This levels down the furrows and thoroughly pulverizes the clods; it smoothes down the surface ten or fifteen inches about the hills and enables the plowman in cultivating to get close to the corn without covering it with clods. The corn is covered at uniform depth and comes up at the same time.

Onion Culture.

The cultivation of onions has of late been profitable in all places where there was ready access to market. In a crop so variable as this, the experience of successful growers is valuable. We have published in a 20-cent Pamphlet the methods followed by 17 successful practical growers, but as Mr. Theodore Barker, Rockland Co., N. Y., has some details of practice different from anything we have seen, we add to the literature of the subject by publishing his communication: "I grew last year (unfavorable as the season was in my section) from a plot of ground thirty by forty feet, seventeen bushels of very fine onions. The soil was rather light, and I applied broadcast about one load of manure, consisting of well decomposed barn-yard manure about two-thirds, and one-third swamp muck. This should be done as soon as the weather will admit in the spring—still better in the autumn—and plowed under immediately to the depth of about ten inches; then about the middle, or towards the latter part of April, give it another thorough plowing, and as soon as the surface becomes dry, harrow well with a light, close-tooth harrow; then I top-dress lightly with well decomposed manure from the barn yard—or still better from the privy or pig sty. I now proceed to drilling with a marker of my own manufacture, made like a hay rake, with five teeth fifteen inches apart, which makes four drills at a time, one tooth running in the outside drill as a guide. Then, with one foot on each side of the drill, drop and cover the seeds lightly, packing the drills with a garden roller, (I consider this very important). This done, I draw a bayonet hoe through—going before it—to loosen the ground packed while planting; this prevents a crust forming on the surface. When the onions are up so that they can be seen, I again draw the bayonet hoe through them, and continue to do so occasionally until they are up about five inches; I then thin them to about three inches—many would object to this as being too close, but I have found that by crowding each other some, they bottom better, and the consequence is, they form a double row, thus making a larger yield. With a small garden plow I pass the land-side to them first, and immediately reversing I throw a furrow toward them; this is done in order to protect from drouth many young fibrous roots which lay near the surface. This I consider the great secret in onion culture. This, however, should not be practised too late, but on the contrary, when the tops are up about twelve or fifteen inches, the dirt should be taken from them, as the roots have become strong by this time and penetrated further into the earth and are better able to stand drouth and the onions will bottom very rapidly. I am well aware that it has been argued that in order to produce good onions, the ground must be kept perfectly level and hard; on the contrary, I find it needs to be kept loose, and a part of the time ridged. I have seen my own onions remaining high colored and growing through a dry time, while those of my neighbors, who kept their ground flat, were dying. Another absurdity is rolling barrels over the tops, in order to make the onions bottom. This I never had occasion to do, as I find that the top becomes reduced and falls of itself when the onions bottom. My mode of gathering is to pull them when the tops are nearly dry, placing them thinly together upon the ground, (in this state they remain three or four days,) then if dry, I top them with a knife and put them upon the barn floor. Care must be taken not to have them very thick, or they will sprout. I allow them to remain here four or five weeks, when they are put in bins, in a cool, dry place." As long as the present large demand continues, onion culture on suitable soils will pay well.

About Leeks.

Those who do not like onions will not cultivate leeks, as they have a flavor resembling that of the onion, though quite peculiar. Leeks are so highly prized by the Welsh that they are as much a national vegetable for them as the potato is to the Irish. The leek differs from the onion in having broad flat leaves, and in not swelling out at the bottom. The eatable portion consists of the lower part of the leaves forming a neck which is blanched by earthing up to exclude the light. The engraving shows the appearance of the leek. Sow seed in early spring in a light rich soil. It may be sown thinly in drills, 15 inches apart, where the plants are to stand; in this case they are thinned out to six inches in the rows, and are gradually earthed up at the summer hoeings. Some cultivators sow the seed broadcast or in drills, and when the plants are four to six inches high, they are transplanted to trenches about six inches deep, and gradually earthed up as they grow. We have found these methods equally successful. It is said that occasionally shortening the leaves will increase the size of the leek. We have never tried it. One ounce of seed will produce about two thousand plants. The leek is quite hardy and in most localities may be left out over winter, and will come out in spring "as green as a leek." Leeks are used in soups and stews. When cut up in soups and thoroughly cooked, they impart besides their peculiar flavor, a mucilaginous quality much liked by many.

Flax Culture—Profits.

Flax grows well wherever oats will—so far as climate is concerned. It requires good corn ground, neither too stiff nor too light. It will not bear fresh manure in any quantity, yet needs a fertile soil. Good sward, plowed in the fall and sowed in the spring, or corn stubble ground is adapted to it. When raised for seed, grass or clover seed may be sown at the same time—that is, after or with the flax. A common rule for the quantity of seed to sow is, 3 pecks per acre when the crop is raised for *seed*, and 2 bushels when raised for *fibre*. The object with American farmers has hitherto been chiefly to obtain the greatest quantity of seed, but now the fibre is in demand at very remunerative prices, at least in some parts of the country, and the demand is rapidly widening. It is not customary for us to spend the home labor upon the straw usual in Europe, but it is got in marketable condition at the least possible expense of labor.

Mr. J. E. Cookingham, of Dutchess Co., N. Y., who is a successful cultivator, gives us briefly an account of his last year's crop, a fair average one, as follows: Plowed in last year's stubble (the corn was well manured), sowed broadcast 5 pecks good North River seed, harrowed it in lightly and rolled the ground. The sowing was done at the time he sowed oats, about the first of May. When the top bolls turned brown, the crop was pulled and laid as in swaths from a cradle; after two or three days it was bound with rye straw in bundles about 6 to 8 inches in diameter at the bands, and housed. As soon convenient it was threshed, one man opening the bundles, another spreading the straw out by large handfuls in a fan-shaped form, and applying the heads to the cylinder of a threshing machine, the "concave" being raised so that the teeth scarcely touched. [The straw is all retained in the hands in this process.] Another man raps out any seed which may still be lodged in the straw, and re-bundles it. After mowing, in the month of September, the straw was spread out upon the meadow, just thick enough to cover the ground. Here it lay about one month, being turned at the end of two weeks, by which time it was rotted enough. [The length of time depends upon the weather.] At this time it was raked and bound as at first, but whether stacked or housed, Mr. C. does not mention. His crop was 78½ bushels of seed, which sold at $3.00 per bushel, and nearly 5 tons of straw, which sold at $40 per ton, making in all $435½.

Amount of Butter and Cheese in Milk.

According to the reports of several of the associated cheese dairies, an average of 10.14 pounds of milk is required to yield a pound of cheese. One pound of butter requires on an average about 15 quarts of milk. This would give from the *same* amount of milk about 3 lbs. of cheese to 1 of butter. A dairyman in Western New-York after repeated trials of making cheese and butter from the same quantity and quality of milk, has found the above proportion to be pretty uniformly maintained; occasionally the cheese slightly exceeds the given rate. At present prices cheese would give the best profit.

HARD TIMES.—A farmer who lives on a certain hill, called "Hard Scrabble," in Central N. Y., says that last summer, owing to the drouth and poor land together, the grass was so short they had to lather it before they could mow it!

Fig. 4—VINE GROWN WITHOUT TRELLIS.

Grape Vines in the Garden.

In the *Agriculturist* for November of last year, a detailed account was given of two methods of training the vine. As these may appear too complicated, and require too much outlay for trellis, (although they are really very simple and

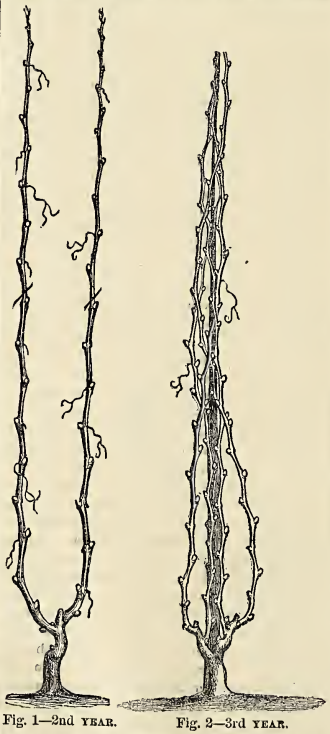


Fig. 1—2nd YEAR. Fig. 2—3rd YEAR.

will be found so in practice,) we give some other plans which are suited to narrow limits and which will give good results, although less fruit will be produced from each vine, as they will be dwarfed. Directions for setting the vine are given on page 111; it is cut back to 18 inches, and one bud allowed to grow the first year. In autumn this single cane, thus produced, is cut back leaving three buds of new growth, and the next year two buds are allowed to grow. If the vine is a strong one it may be allowed to bear a few bunches of fruit; if weak, the blossom buds should be pinched off to allow the whole strength to go to make wood. The vine in autumn will appear like fig. 1. Of course the canes each year are supported by tying to stakes. The following autumn the canes are cut off above the lower two buds, if the vine is to be protected; or if left exposed, we prune above the third bud and cut back to the second one early in spring. The next year's growth is represented in fig. 2, and a vine of this size will bear from 12 to 20 bunches of fruit, and will need only a single stake for support. In pruning this vine in autumn, cut away the uppermost two canes entirely, and shorten the others to two buds each if protected, or to three if not, as before. The vine when pruned will appear as in fig. 3, and this manner of pruning may be repeated each year, if the space is confined; or if there is room for a trellis, instead of removing two of the canes entirely, all four may be cut back to two buds, and these will produce eight canes as in fig. 4, which may be disposed on a trellis and will give from 30 to 40 bunches of fruit. This vine has four short spurs producing two canes each and may be pruned according to circumstances. If double the number of canes can be grown without crowding, then prune each cane to two buds, and next year sixteen canes will grow. If, however, eight canes are all that are needed, then cut away the upper cane on each spur and shorten each of the others to two buds. This is essentially the same plan of training as shown in the upper figure on page 340 of last November, except that there are fewer spurs, and these are not distributed on long arms as there represented. There are often situations and gardens where the best place for training the vine is at some distance from the most suitable spot for planting it. In such cases, the arm or arms upon which the canes are to be borne may be started ten or more feet from the ground, and all shoots kept off below the arm. The manner of laying down arms is shown in the figure

Fig. 3—3rd YEAR PRUNED.

published last November and quoted above, only in the present case the buds for the arms are taken from near the top of a strong cane, instead of within a foot of the ground. A single arm may be made, and its spurs pruned in the same way as the double one there mentioned. Mr. Wm. Gerhault of Vanderburgh Co., Ind., grows his grapes in vineyard culture by a method of pruning similar to that shown in fig. 4, and without the use of a trellis. He plants his vines 4x4, and during the early growth they are treated as described for fig's. 1 and 2, except that the spurs are about two feet from the ground. When the vines get as large as in fig. 4, the canes are kept pinched back above the fruit. This is an old method of treating the vine under which it becomes dwarfed, with an enormous trunk. Fig. 5 shows a very old vine, such as are found in some of the vineyards of Europe, where this manner of pruning is called "buck pruning." The writer has seen vines in the interior of Mexico, which present the same appearance, in vineyards which were planted by the Jesuit Missionaries, and which must be over a hundred years old. The above account is given to encourage those who have only a limited space to grow vines, and all allusion to the summer treatment of vines is left out, as this will be noticed with appropriate illustrations at

Fig. 5.—OLD VINE "BUCK" PRUNED.

the proper season. The engravings given above, except fig. 3, are copied by permission from Fuller's Grape Culturist noticed on another page.

Plant a Grape Vine this Spring.

There are few readers of the *American Agriculturist* who have not room for a single vine, and we hope that the most of them will put out several; at any rate, plant one. If it is on your own land, all the better. If the place is a hired one, do not let that deter you from planting, for somebody will get the benefit. Many who read the elaborate description given by some for preparing the soil, trenching and special manuring, etc., are led to believe that it is too much of a task and that it will involve the outlay of a great deal of time and some expense. Any soil which will raise good corn will do for the vine. The chief thing to be avoided is a wet soil. Such difficulty must be overcome by draining, or if this is not practicable, excavate the soil to the depth of two feet or more and put in a layer of brick, stones, and rubbish, to serve as a partial drain. If the soil is in good condition, no manure need be used at planting; but if it is poor, add a quantity of well decomposed manure or or compost, or use about two quarts of ground bones to each vine, mixing it with the earth around the roots. A large supply of coarse bones, mixed with the soil, will furnish a lasting supply of vine food. The soil should be thoroughly pulverized to the depth of 20 inches or two feet. Make the hole about five feet in diameter, with the bottom four to six inches deep in the center and eight to ten inches deep at the circumference. In the center of the hole set a strong stake, four or five feet high. This should be placed before planting the vine, so as to avoid injuring the roots in setting it afterwards. The vine, whether from a single eye, cutting, or layer, should be well rooted. To prepare it for planting, cut the roots back to at least two feet, and if they are not as long as this, cut off a portion of their ends at any rate, as this will cause them to throw out small fibrous branches. The top of the vine should be cut back to two or three buds. Set the vine in the center of the hole, close to the stake, spread the roots out to their full length and distribute them evenly, and then cover them with surface soil, working it in carefully around the roots; then fill up the hole and press it down firmly with the foot. When the vine begins to grow, rub off all but the strongest shoot, and keep this tied to a stake during the season. A very little trouble will soon furnish a large supply of this delicious fruit. Get a Concord, if but one vine; if two, add a Delaware; if more, half of each, if obtainable.

Notes on Cheese Making.

The Annual Report of the Farmers' Club of Little Falls, N. Y., contains an interesting letter from L. B. Arnold, detailing his visits to several cheese dairies in Western New-York. Some items are worthy of especial note: In three separate localities the treatment of the milk, the time of curding, the fineness of the curd, and time of working, and heating up were very nearly alike. No. 1 salted highest; 2 and 3 salted alike. No. 1 scalded lightest; 2 scalded more than 1; 3 more than 2. No. 1 made the hardest cheese; 2 softer than 1, and 3 softer than 2. No. 1 was too hard; 2 about right, and 3 too soft. Mr. Arnold could see no way of accounting for this singular difference, except by referring it to the difference of moisture in the soil where the cows producing the cheese were pastured. Those of dairy No. 1 had a dry, gravelly pasture, watered by a single spring; No. 2 had a lower, gravelly, loam pasture, watered by living streams; and No. 3 had a still lower, alluvial and wet pasture, watered by living streams. One of the dairymen stated that, although he scalded his cheese more now, than when formerly making it on another farm, the product was yet softer; his present location is more moist than the former. These facts indicate that no uniform rule can be given for scalding the curd; the time should vary with the character of the soil. Perhaps, also, experiments may prove that as good cheese can be made in one district as another, provided proper variations of treatment are made to correspond with peculiarities of soil, etc. Facts are wanted.

"Sweet Herbs"—A Timely Hint.

Certain aromatic plants, not food in themselves, but used to flavor and make other food more agreeable, are called sweet herbs. These are more or less used in every family, and it is much cheaper to raise than to buy them, and they may be had thus of better quality than as usually found in the shops. Sage and Thyme are perennial, but they will give a moderate crop the first year from the seed. Sage may be transplanted to a foot apart each way, and Thyme to half that distance. After the first year the stock can be increased by dividing the plants, or by cuttings. Summer Savory, Sweet Marjoram, and Sweet Basil, are the most generally cultivated annual herbs. The seeds are all very small and should be sown shallow, in very fine soil, and watered if the weather is dry. The plants may be thinned out to three inches, or be transplanted to that distance in rows a foot apart. All these aromatic plants are cultivated for their leaves and should be cut just as they come into flower. Sage and Thyme do not generally blossom the first year. These should be cut before frost. They should all be gathered on a dry day and tied in small bunches, or spread to dry in the shade in an airy room. Afterward, strip from the stems and keep in close boxes or cans. Parsley, though not belonging to the sweet herbs, should not be forgotten, as it is always in request in the kitchen as a flavoring ingredient for soups, stews, and sauces, and as a garnishing or ornament to dishes of meat and fish. The double curled is the handsomest variety, and though not as strong as the plain, is generally preferred. The seed is several weeks in germinating; it should be sown in April, in light, rich soil, in drills a foot apart, and thinned out to six inches. A portion may be sown in the summer for keeping over winter, which may be done by a covering of litter, or cedar boughs. Plants may be taken up and set in a box or tub of earth, in a light cellar, where they will grow and afford a supply for winter use; or the leaves may be gathered and carefully dried.

Sow Spinach.

How many of the readers of the *Agriculturist* enjoy this really delicious vegetable? Probably not half of those who should have it in abundance. It is easily raised; the seed is cheap, and there is no reason that any one should be deprived of it who has a garden. If the directions given in the Calendar last autumn were attended to, seed was sown and the plants wintered over for the earliest spring crop: all that now needs to be done is to remove the covering of litter and stir the soil between the rows, and in a few days the plants may be cut. If this provision was not made beforehand, get the seeds in as soon as the ground can be worked. Sow the round-leaved sort in strong, rich soil, in shallow drills, 12 or 15 inches apart. As soon as the plants are large enough, thin to six inches, and when the leaves of adjoining plants touch, take out each alternate plant for use, leaving the others to increase in size.

New Zealand Spinach.

Mr. S. Mangold, near Cincinnati, O., writes that he considers this the most valuable of all garden vegetables. He sows as early as the ground can be worked, about two inches deep in light, garden soil. The early growth is very slow, but when the plants have made 4 or 5 leaves they begin to spread, and the trailing branches extend until frost comes. They should stand three feet apart. Mr. M. says that he keeps this plant upon the same patch for several years in succession, as the plant seeds itself. He digs up the bed in the spring and sows lettuce, and by the time this is off the spinach is up to take its place. He says that 15 or 20 plants will give a family a good cutting every week. This is the *Tetragonia expansa*, and is different from any variety of the common spinach. It possesses the merit of enduring the severest drouth. The leaves are plucked and cooked like other spinach, making a good dish of "greens."

THE SHEEPFOLD AT YEANING TIME.—*Engraved for the American Agriculturist.*

The success of the shepherd during the lambing season settles the profits of the year in a great degree. Though repeating a little which has been said in previous numbers, we would enforce the doctrine, that the letting-sheep-alone system is the proper one. The ewe is neither retiring nor sensitive in her habits at this season, as a cow is when her time matures; she never hides her lamb so that days may elapse before it is found, but seeks only a sheltered dry place, where ordinarily without much pain of body or distress of mind she drops her young—very often twins and not very rarely triplets. There ought always to be provided warm shelter within closed sheds or barns, or, though less desirable, in open sheds like those in the picture above, on high dry ground, either floored or littered so as to keep the chill of the ground from the young lambs. Remember that though they may endure a good deal of cold under some circumstances, it checks their growth, while many can not stand it, and die. It is not advisable to have loose, long strawy litter, for the lambs get cast and tangled up in it. The litter should be short and pretty well trodden down. Now and then a ewe gets in trouble and needs assistance, but it is so seldom that it is hardly worth while to disturb a flock of sheep which are rather wild, by visiting them much at night. It is true also that those active breeds which are timorous and apt to start up and run and huddle when visited at night, are least apt to need any care. The Cotswolds and other of the heavy mutton sheep are most likely to need assistance. This should be rendered by an old shepherd if possible. A person with no experience can only act as practical common sense dictates, and it is not worth while to lay down any rules. Sometimes a ewe's strength fails when her labor is protracted, and then a teacupful of malt liquor, or a little gin and water may be given at intervals, enough to stimulate and quicken the circulation.

The lambs which are not lively and in good condition—those found chilled and stupid in uncomfortable places, perhaps wet and shivering, ought to receive the tenderest care of the shepherd. He should always have at hand a bottle of fresh ewe's milk as near blood warm as may be, which should first be administered. We have known farmers administer rum and molasses mixed with milk (a weak milk punch), in small quantities to weak chilled lambs with good results. It sometimes happens from disease of the bag or from the flow of milk not coming at once, that a ewe can not suckle her lamb. In such cases the lambs must be fed from ewes having plenty of milk, or be removed altogether from their dams and given to others which have lost lambs or have plenty of milk, which by perseverance is usually accomplished without much difficulty. Lost lambs whose dams do not recognize them, must be provided for in the same way. When one lamb is substituted for another, the plan which saves all further trouble usually, is, to cut off the head and legs of the dead lamb, slip off the skin and drawing it on over the substitute, tie it so that the licking and fondling of the ewe will not get it off, and turn it to the foster mother, who will almost invariably receive it, especially at night and after the skin has been worn long enough to be warmed through. The first milk that flows after yeaning, is of a peculiar purgative character, not fit for lambs several days old, while very necessary for newly born ones, so that if these be deprived of it they are apt to contract diarrhœa after a few days, which is frequently fatal. If a ewe has twins at her first yeaning, unless she have an abundance of milk it is well to separate one, and this is best done after the second day. The flock ought to be watched to see that ewes with twins do not disown one, or that lambs and dams are not otherwise separated; also care should be taken that strong lambs with voracious appetites do not suck more than one ewe as they sometimes do, robbing others of what rightfully belongs to them.

Green Food for Stock.

Those who from having long been confined to a diet of salt junk and potatoes, sit down for the first time in the season to enjoy early grown greens, lettuce, and green peas, may understand something of the longing which cattle and other stock feel for the return of grass feed in spring. It is, however, unwise to indulge them in a range of pasture, until the growth is well established. Pasture may be greatly injured by too early cropping, and by trampling while the ground is soft. No hoof should enter a *meadow* or grain field in spring time. Beets and carrots will now come to an excellent market if they are on hand. It is well, where only a small quantity are raised, to keep them over for spring feeding. If none have heretofore been cultivated, the desire for them now, should lead to preparation of ground for a crop the present season. Plow deep, subsoil if needed, manure thoroughly, and sow in drills 1½ to 2 feet apart, according to the crop, the latter part of this or the first of next month, except for turnips, which are better left later.

Helps in the Garden.

In laying out and planting the vegetable, fruit, or flower garden, there are several convenient implements which can be made with little trouble, and which will greatly facilitate work.

A GARDEN REEL.—This is to hold a line which is to serve as a guide in running straight lines from one point to another. Iron ones are sold at the seed stores, but a home-made one will answer as well. Fig. 1, shows the shape. The side pieces, *A*, *A*, are made of curved limbs, or may be worked out of straight stuff, about ¾ inch in diameter, and 12 to 15 inches long. The cross-pieces, *B*, *B*, are 2 inches wide, ½ to ¾ inch thick, and 1 foot long; these have holes near the end through which the side pieces pass and project above and below for about an inch. The centre stake, *C*, is 2 to 2½ feet long, 1 inch in diameter where it passes through the cross-pieces, and with a shoulder below the lower cross-piece, from which place it gradually tapers to a point. A pin through the upper end of the centre piece, above where it passes through the upper cross-bar, will prevent it from slipping out. The best *cord* is a small hempen one, of a length suited to the size of the garden; and if tarred it will last all the longer. One end is fastened to one of the side pieces of the reel, and the cord wound up by turning the frame by means of the handle, *D*, the other end being fastened to a sharpened pin, *E*, which is made about eighteen inches long, and of the size of *C*. All parts of the reel should be made of hard wood, and with careful use it will last for years. To use the reel, thrust the stake portion firmly in the ground at one end of the bed, or other work to be laid out, and walk off with the pin to the desired point; drive the pin into the ground, then stretch the line tight and secure it by taking a turn around the projecting corners of the frame of the reel.

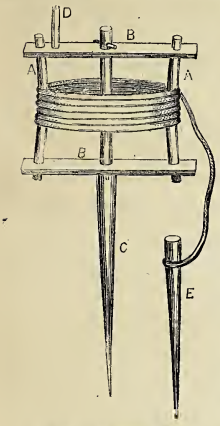


Fig. 1—GARDEN REEL.

A MARKER.—Very convenient for making drills at equal distances. Fig. 2, shows the usual form. A piece of scantling has a handle fastened to it horizontally and well braced. Teeth of hard wood, about 18 inches long, rather bluntly pointed, are fastened at the distances required for the rows. It is convenient to have three sizes, with the teeth at 12, 15 and 18 inches apart. To use the marker set the line as a guide and run it with the first tooth next the line; afterward the marker is guided by running one tooth in a mark previously made.

COMPASSES.—A pair of rude compasses made of lath or light stuff, about 3 feet long, fastened together at one end by a screw so that the points can be set at any required distance. This is convenient in spacing off distances at which to set plants in rows. The line being stretched the length of the row, the spaces can be marked off very rapidly by the compasses. It is very very useful also for striking circles or curves.

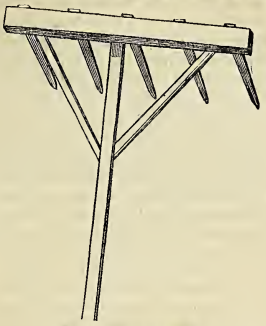
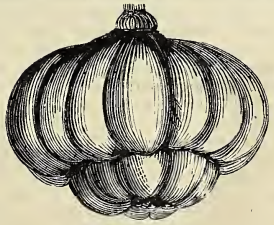


Fig. 2—DRILL-MARKER.

PLANK.—A plank a foot or 15 inches wide, and long enough to go across the beds, will be found very useful in sowing many seeds. Lay the plank square across the bed, and with a small stick or the finger make a scratch or drill, using the edge of the plank as a ruler. Sow the seeds, then turn the plank over and put in another row; by turning the plank carefully, the rows will be just as far apart as its width and thickness, and the plank serves to stand upon while sowing, thus avoiding any trampling of the bed.

The Turban Squash.

This variety is not a new one, but it is not very generally known. It has recently been cultivated quite largely by J. J. H. Gregory, of Marblehead, Mass., the gentleman to whom we are indebted for the introduction of the Hubbard; he thinks its merits have been overlooked. It has also been called the Acorn squash on account of the prominence at the blossom end. The engraving shows a specimen with this protuberance unusually large; the squashes upon the same vine will vary in this respect from the form here shown to those in which it is but slightly developed. The specimens shown by Mr. Gregory at the Exhibition at the *Agriculturist* Office last autumn, were about 8 lbs. in weight, and of a fine orange-red color. The flesh is high colored, very heavy, fine grained, dry, sweet, and of good flavor, and it is in perfection when first taken from the vine, while the Hubbard requires to be kept to develop its good qualities. Mr. Gregory gives the following notes in regard to it. "The Turban


TURBAN SQUASH.

should be planted in good soil about 8x9 feet, and not over *two* vines left to the hill. Under high cultivation it will yield at the rate of six tons to the acre, which it did with me during the past season. It should be planted as early as the season admits, be permitted to grow through the entire season, if intended to store for late keeping. Gather and store within a few days, in a dry, airy apartment, laying the squash on its side, not standing it 'acorn' down as its shape invites, for the calyx end is the tenderest part of the squash. Avoid the bad practice of piling this or any other variety of thin skinned squash in the field, as a series of cold rains will be sure to injure their quality and keeping properties. The Turban is a good keeper." With the Turban, Yokohama, and Hubbard, there would seem to be but little room for improvement in late squashes, in quality at least.

The Martynia.

This, like the tomato, was formerly cultivated as an ornament, but is now finding its way into the vegetable garden, though the seedsmen in their catalogues still include it with the flower seeds. The most common species is the *Martynia proboscidea*, a native of the warmer portions of North America. It is a rather coarse annual, with strong spreading branches, and coarse clammy foliage. The flowers are in clusters and about as large as those of the fox-glove, white and marked in the throat with yellow or purple spots. They are succeeded by a curious

BRANCH OF THE MARTYNIA.

curved pod, which when young is fleshy, but which soon becomes woody, and when quite ripe, splits at the beak into two strong bent horns. Each pod contains several large, black, rough seeds. The engraving shows a branch with flowers and fruit all of reduced size. The botanical name is given in honor of Prof. Martyn, an English botanist of the last century, and its common names of Unicorn-plant and Buffalo-horn, are in allusion to the shape of the fruit. The unripe pods, taken when very tender, make most excellent pickles, as is noticed on another page. There are other species with yellow and purple flowers, but we have not known the fruit of these to be used, though it will probably answer the same as this one. When cultivated for the fruit, it should be grown on light, warm soil, as too rich soils produce too great a growth of stem and leaves. The plants should stand at least two feet apart. The seed may be early sown in the place where it is to remain, or it may be started earlier under shelter and then transplanted. Sow when danger from frost is over, and cultivate the same as tomatoes.

Grape Notes from Missouri.

In no State has grape cultnre been prosecuted with more earnestuess, or given more satisfactory returns than in Missouri. The following extracts from a letter to the *American Agriculturist* from Geo. Husmann, Esq., of Hermann, Mo., will be interesting to grape growers all over the eonntry. Mr. Husmann is well known as an extensive vineyardist, and one whose judgment in regard to varieties stands high among pomologists. In the Febrnary *Agriculturist* the statement was made, upon what we considered good anthority, that the Norton's Virginia was only half hardy. Mr. H. says: "The Norton's Virginia is one of the hardiest of all the grapes I know. It is fully as hardy as the Concord and Hartford Prolific, and much more so than the Catawba and Isabella. Wherever it has been planted in the Western States, Ohio, Illinois, Kentucky, Iowa, Wisconsin, Indiana, and California, it has proved hardy, healthy, prodnctive, and successful in every way. I have been told, however, that it does not make a good wine in New-York, and from the taste of the frnit I tried when there last fall, I should not think it would make wine there, without the addition of sugar to the must. *For the West*, I think it the best *wine* grape, which has yet been fully tried. I do not pretend to speak for the East, as I think the whole question of the snccess of a certain grape, is one of locality. We can not presnme to lay down a rule for our eastern brethern, nor they for us.

The Coneord also makes a very good wine *here*, under proper treatment. The grape should be allowed to get very ripe, then gathered, mashed, and pressed *immediately*, without fermenting previously. Wine made from it under this treatment, was sold for $2 00 per gallon, in the same cellar where the best Catawba (and we know how to make *good* Catawba here,) bronght only $1 65. The Coneord is, under proper treatment, immensely produetive, healthy and hardy, and ean be safely said to yield double the quantity of the Catawba, one year with another; this would seem to indieate it as a wine grape for the West, as well as a market and table fruit. This may seem to be strange to yonr eastern readers, who know the Coneord only as it is there, but let me tell you, (and I can do so knowingly, having tasted it in both localities,) they do not know *what* the Coneord is with *us*, and how much it has improved ou its travels westward. This may be said of nearly all the grapes I have tasted there, not exceptng even the Delaware, which is mnch sweeter here, although not as healthy as with you. The Herbemont is also very sucecssful here as a wine grape, bnt little subject to disease, very productive, and makes a very fine, light red wine. It is, however, too tender for some of our winters, and should be prnned in the fall, bent down, and covered with earth. This, however, is not sneh a very laborious task, if done in the proper manner, and ean be done at an expense of say $5 to $10 per acre, which includes taking up in spring, a trifling expense, which this truly noble grape will richly repay.

The *Cassady* promises to be very valuable as a grape for purely white winc. It is a great bearer, healthy, and hardy. The wine will equal if not snrpass the best made wines of the Rhine, in flavor, body, and quality.

Cunningham.—This grape belongs to the same class as the Herbemont, and requires similar treatment. It is rather an uncertain bearer, but the wine it produces is of such superior excellence, that it will make up in price for the deficiency in quantity. It makes a true *sweet* wine, of great body, and peculiar flavor, which I think would sell readily at $4 to $5 per gallon.

Taylor or *Bullitt.*—This little grape promises highly for white wine, and as it is healthy, vigorous, hardy and productive, may one day rank high as one of the wine grapes of the West.

The *Clinton* also promises highly as a wine grape here. It is healthy, hardy, produetive, and I doubt not, will make a very fine red wine. It has not beeu tried here as much as it deserves.

The *Delaware* makes a very superior wine, but the vine seems to be too feeble and unhealthy, to recommend it for general cultivation *here*. Where it sneceeds, as it evidently does at the East, and around Cincinnati, it ought to be planted extensively, as the wine is truly hard to beat. These are the most prominent *wine* grapes we have now, which have been tested to some extent. Among thosc promising well for that purpose, I wonld name the Cynthiana, Arkansas, Lenoir, Alvey, Louisiana, Rulander.

Norton's Virginia wine now sells readily at $3 per gallon, and the whole quantity grown here last season, is already disposed of. To prevent much useless iuquiry, let me herc remark that the whole salable stock of Norton's Virginia, Coneord, Catawba, and Cassady vines in this neighborhood, is already sold, and uo plants of these varieties can be had here this spring. The demand has becn unusually large, and the whole stock amounting to about 500,000 vines, was sold during fall and wiuter. Herbemont, Cunningham, Taylor's Bullitt, Delaware, and a number of other varieties, can yet be supplied. If any of your readers has a large supply of Concord vines to sell, they will be gladly bonght in this neighborhood, if sold at reasonable rates.

Your suggestion as to the mixing of the juice of several varieties is a good one, and has been tried here with exeellent sueeess; mixing the juice of the Concord and Norton's Virginia, and also Herbemont and Norton's Virginia, gives wines which are in my opinion, superior to that from any one of these varieties alonc."

Cranberry Culture—How to Get Rid of Sedges, etc.

With Solomon we agree in the sentimeut that "There is safety in multitude of counsellors"—if they only be wise ones. A Maine subscriber to the *American Agriculturist* proposed the following four questions, and turning to our friend Hon. Wm. H. Starr, of Connecticut, we received the reply which is given below: *Questions*—"1st. Can the sedges and moss be *killed* (roots and all) by flooding with water? 2nd. How long, at what season, and to what depth must the water cover them to this end? 3d. Will the vines now growing there survive such treatment? 4th. Is there any other mode of getting rid of the sedges, except by the laborious process of removing the turf? Eastwood has nothing on these points.—C.G.A., Augusta, Me."

Response.—"The locality or exposure of the meadow your correspondent does not describe, simply remarking, 'It is on the shore of a pond.' This is a favorable locality, if the water is not snpplied from *cold* springs in the neighborhood, which probably is not the case. The soil is 'peat,' which, with a little modification, is very favorable. The common cranberry, (*Vaccinium macrocarpon*) is already growing. This, also, indicates favorably. The plot is convenient for *winter flowing*, another very favorable feature. As to his first inquiry.—This can be done by flowing in fall, and keeping the plot covered with water from 12 to 18 inches deep, *not less than one entire year*, and *possibly* two. The *roots* of the sedge are very tenacious of life, and not easily killed by water, and the great difficulty would be, the *cranberry* plants now there would not survive this treatment. This, I think, briefly answers the 1st, 2d and 3d qneries of your correspondent. I reply to his *fourth* interrogation, yes; if he can draw off the water from the pond, by ditching or otherwise. If he can so far drain the plot as to plow it early in the fall and turn under the moss and sedge pretty deeply, and leave the peaty soil to freeze (the more thoronghly the better) dnring the winter, the next June it will be in a perfeetly friable state for preparing and putting in a condition to plant the vines. Then, occasionally during the summer raise the water, if the season should prove dry; and before the heavy 'black' frosts occur, flood the vines a foot or eighteen inches deep, until the following spring; then drain the plot, and by the succeeding fall the vines will be established. If he eannot drain the meadow sufficiently for plowing, the labor of removing the sod is not very formidable. If he were to remove the entire surface of the highest portions of it, and cover the lowest parts with beach or bank sand to the depth of three inches, and then set his plants, he would probably be sueeessful; but draining and plowing is by far the more preferable method, if it be possible.

A Word for Shrubs—Plant Them.

It requires a large place to have stately trees, but the smallest yard can have shrubbery. By a judicious planting of shrubs in clumps, an impression of extent can be given to a place of moderate dimensions. The distinction between shrubs and trees is not definitely drawn, but the former term is usually applied to those woody plants which branch low down and do not show a distinct trunk. Some shrnbs are grown for the beauty of their foliage only, while others are prized mainly for their flowers. In planting shrubs we would not neglect the time-honored Lilac and Snow-ball, for they are associated with our earliest recollections, but in planting these we would get the improved sorts of Lilac, and while we would get the tall Snow-ball for old aequaintanee' sake, we would remember the *Viburnum plicatum*, which is just a snow-ball in miniature. If asked to name three of the most satisfaetory and readily obtainable shrubs, we should say: *Weigela rosea*, *Forsythia viridissima*, and *Cydonia Japonica* or Japan Quinee. The Wigela is full of flowers in spring and is a beautiful, hardy shrub. The other two have the merit of flowering early, and their foliage is fine when the bloom is over. A long list of desirable shrnbs might be given, but the farmer who wishes to beautify his front yard and has not access to the nurseries, would be deterred by the list of names. As it is for those who have taste, but not the facilities or means for procuring the products of the nurseries, that this article is especially intended, we will name a few native shrnbs, which are easily procured, and which will give satisfaction. The High-bush Cranberry, which is common in swamps, is very desirable and showy when in flower. The *Spiræa opulifolia*, popularly known as Nine-bark; the Meadow-sweet, which is *Spiræa salicifolia*, and the Hardhack, which is still another of the same genus, and is *Spiræa*

tomentosa, will do well in cultivation, the first growing from 5 to 10 feet high; the second, from 2 to 4 feet, and the last, 1 to 2 feet. Then there is the Pepperidge, *Clethra alnifolia*, which is common in swamps, especially near the coast: this makes itself quite at home in cultivation, and shows its white spikes of most fragrant blossoms in August, a time when flowers are scarce. The whole tribe of Cornels or Dogwoods are valuable and numerous. *Viburnums*, or Arrow-woods, are worthy of being introduced into the shrubbery. The Spindle-tree or Wahoo, *Euonymus atropurpureus*, must not be forgotten, for though its flowers are not showy, it has good foliage and its berries are very brilliant in autumn. This list might be extended indefinitely, and should by all means include the Shad-flower and Wild Crab, but it is left to the reader to fill out with whatever has struck him as being beautiful in the wild state. So little do persons observe our wild plants, that the commonest things transferred to cultivated grounds, will be admired as something rare by those who pass them in their daily walks. Shrubbery to be effective, should be in clumps and consist of various sorts, planted quite thickly, the lowest growing ones, of course, upon the outside.

Influence of Stocks upon Grafts.

George S. Rawson, Middlesex Co., Mass., writes on this subject to the *American Agriculturist:* "For the same reason that an early stock will hasten the maturity of grafted late fruit, a late stock will retard the maturity of early fruit. When I purchased the land on which I now live, there were two apple trees of some kind of late fruit. I grafted one with the *Garden Royal*, a beautiful little dessert apple, that originated in this section, and which usually ripens about the first of September, and decays soon after it is fully ripe. But those on my tree do not ripen until all the Garden Royals in this neighborhood are ripened and gone. The size is also very much increased by their later maturity, and the quality is also greatly improved—so much so, that visitors often say they 'never saw such Garden Royals as mine.'

"The other tree was grafted with Hubbardston Nonsuch, and they remain hard until they rot. I cannot see how a fruit grower can fail to observe the influence of the stock upon fruit. There is no apple extensively cultivated but has been changed more or less by the stock upon which it has been grafted. Witness the different varieties of the Baldwin, R. I. Greening, and Roxbury Russet."

Mixing Flowers.

A good arrangement of colors goes far to perfect a flower-garden. By suitable study, any one who has a knowledge of the habits of plants can produce brilliant effects. Last summer, the writer of this enjoyed for some time the daily view of a magnificent oriental scarlet poppy set off against the abundant blooms of a shrubby white spiræa.—A little forethought on the part of the gardener will produce most agreeable results. Most of the *plans* which we have met with in the horticultural journals, foreign and domestic, are defective in several respects; first, in recommending plants which bloom at different seasons of the year; also in arranging those which flower the whole summer with such as bloom but a few weeks; and lastly, in recommending for popular use those which are quite rare and expensive. Now, it is folly to assort the fall-blooming Aster with the spring-blooming Hyacinth, or Candytuft with scarlet Geraniums, or to advise as "very good" the Victoria regia and Lilium auratum—the latter to be had at "*only* $40 a bulb." But it *is* wise to recommend putting together different colors of Portulacca, in a bed by themselves; also to classify the colors of the Verbena as carefully as a lady does the shades in her worsted work or on her bonnet and dress. A bed of the various summer blooming Geraniums always looks well. Whoever has a little spare change may well spend it in an assortment of Heliotropes, Ageratums, Feverfews, Lantanas, etc., and they will sort well and bloom in company all summer.

Everlasting Flowers.

Several flowers, the texture of which is peculiarly firm and paper-like, have received the name of "everlasting" from the fact that they retain their form and much of their color when dry. Tastefully made bouquets of these are pleasing ornaments for the house, and are much more satisfactory than the paper or worsted-work caricatures we frequently see. As spring is the time to provide for winter, we give a list of varieties that seeds may be procured in season. They are all desirable flowers in the garden also, if not needed for dry bouquets. At the head of the list we place the *Acroclinium roseum*, as it is to our taste the prettiest of all. The flower is over an inch in diameter, the rays, or border, of a bright rose color, with a yellow center. There is a variety *album*, with pure white rays; the two make a fine contrast. *Rhodanthe Manglesii*, is another fine annual, but it sometimes fails to do well in out-of-door culture. This is also of a fine rose color and has flowers of a peculiar grace and beauty. *Rhodanthe maculata*, *atrosanguinea* and *maculata alba*, are varieties of this, and have different colored flowers, the last two being quite new, and the seeds selling at a high price. Various species of *Helichrysum* or Straw-flower, though coarser than the foregoing, and strong growers, are very valuable, and afford a great variety of colors. The same may be said of the different sorts of *Xeranthemum*. *Ammobium alatum* produces small white and nearly globular flowers.—All of the foregoing are annuals which will grow readily in any good garden soil. The flowers, if wished for winter bouquets, should be cut before they fully expand, and dried in small bunches in the house. The old Globe-amaranth, *Gomphrena globosa*, should not be forgotten. Of this there is a great variety of colors, and if picked at the right time they last very well. Scald the seeds before sowing, and pick the flowers when of full size, but before the lower scales begin to drop.

To Improve the Lawn.

It is now supposed that you *have* one. It was made several years ago, but weeds have got into it, ant-hills appear in some places, there are depressions and elevations, and here the grass has died out. Obviously, improvement is needed.

The time for making improvements is now, as soon as the snow and frost have disappeared, and before the grass has made much growth; one can see the inequalities of the surface better than at a later period. Taking a bundle of small stakes on your arm, go over the whole lawn carefully, sticking in the pegs at every elevation and low place. Then with a sharp spade pare off the turf, and level the soil up or down, as the case may require, and then return the sods to their places, pounding them down smooth. So, go over the whole lawn, until there is no longer any perceptible unevenness of surface.

For ants, a correspondent of the Horticulturist strongly advises the use of ground coffee which is to be sprinkled on the hills. The writer says that the ants will disappear in fifteen minutes. He says "it never fails." Is it so?

The weeds, be they dock, plantain, thistles, dandelion, or such like, should be dug out by the roots. It will not answer to cut them off just below the surface. To bring up the weak grass and to cover the bare spots, spread over the whole lawn, a thin coat of well rotted manure, ashes, bone-dust, or poudrette.

Now, cut out the margins of the walks and flower beds anew. Ascertain the original lines exactly, and renew them with the sod cutter, or sharp spade. Few things give a country place a more finished look than neatly cut lines of walks and roads. Clean the roads and walks from every weed, and if flower beds have been cut out in the grass, eradicate all grass and weeds from them. Finally, bring out the roller, and trundle it back and forth over the entire surface, pressing back all grass roots that the frost may have thrown out, and smoothing down all parts alike, and then the spring work on the lawn will be well along, if not done.

Early Beets and Carrots.

The earlier these can be had, the more acceptable they are, and with a little pains they may be brought on much earlier than usual. The soil for both should be light, warm, deep, and rich with manuring the previous season. The best early variety of beet is the Bassano, or, as called by some, the Extra Early Turnip Beet. This though not large, is quick growing and very good. Soak the seed in warm water for 24 hours; pour off the water and keep the seed covered in a warm place until the sprouts begin to show themselves, then roll the seed in plaster and sow. In treating the seed in this way, do not let the sprouts get too long, as there is danger of breaking them, but sow as soon as they begin to show themselves as little tender points breaking through the shell of the seed. Sow in drills, 12 or 15 inches apart, and when the plants are 2 or 3 inches high, thin to 8 or 10 inches in the row. An ounce of seed will sow about 100 feet of row. As the beet seed is really a sort of cup, or capsule, containing frequently two or more seeds, it often happens that two or three plants will come up so close together as to appear like one. These crowded plants should be looked to, and only one left. If there are any deficiencies in the rows, they can be filled by carefully taking plants from the crowded places and transplanting them. Hoe often and weed thoroughly.—The Early Horn Carrot is the best early. Soaking the seeds in tepid water for two days will hasten their germination. A friend informs us that he gets carrots up in three or four days by keeping the moistened seeds in a warm place for five days and then drying off in ashes or plaster. We have not tried this plan. An ounce of seed will sow one hundred and fifty feet of drill. Sow in 15 inch drills, cover half an inch, and thin to four inches. As the plants are very small when they first show themselves, it is a good plan to sow a few radish or turnip seeds with those of the carrot seed, in order to distinguish the rows readily at the first weeding.

Turnip-rooted Celery or Celeriac.

This fine vegetable, for a long time exclusively grown and used by the Germans, is now becoming generally known and appreciated here. It is a variety of celery, the short stem of which swells out into a kind of tuber, as shown in the engraving; this is the eatable portion, and if well grown, is tender and has in a marked degree, the flavor of celery. It is sliced and stewed, and served with drawn butter. It is also boiled, and when cold, sliced and dressed as a salad; it is used also in soups. Celeriac as found in the markets is from two to three inches in diameter, but it is said that on the Continent in Europe, it frequently grows to weigh three or four pounds. Sow the seeds early in a seed bed, and then transplant to a light, *rich* soil, setting them in rows 18 inches apart and about a foot distant in the rows. Watering occasionally with liquid manure while the plant is growing, is essential to success. It is not planted in trenches like other celery, but upon the surface, taking care to set the plants rather shallow. In transplanting, take off some of the outside leaves, and if there are any strong lateral roots they should be removed. In cultivation, care should be taken not to earth up the plants. The bulbs are taken up in October, and preserved during the winter in sand. The seeds may be had of all regular seed dealers.

The Cauliflower.

Frequent complaints come to the *Agriculturist* of want of success in cultivating the cauliflower. Having raised an abundance for several years with no more pains than were taken with early cabbages, we are inclined to attribute the failure, where it occurs under *good* culture, to the poor quality of the seed. Perhaps there is no plant in cultivation more changed from its natural state than this, and any cause which may interfere with this unnatural condition, may show itself in deteriorated seed. A well grown cauliflower is one of the triumphs of good gardening, and it is so delicious and delicate upon the table that it is worth risking several failures to secure one success. The Early and Half-Early Paris, Thorburn's Nonpareil, Large Asiatic, and an American sort of which the name is lost, have all given fine crops. For the early crops the two Paris sorts are preferable. The seeds should be sown in a hot-bed or cold frame, and treated just like cabbage plants. If the plants become of proper size to transplant before the weather becomes suitable, they may be put into small pots and kept under a frame until safe to set them out. Plant in very rich, deep soil, two and-a-half feet apart each way; hoe very often and deep, water in dry weather, give an occasional taste of liquid manure, and when large, draw the earth up around the stems. If these directions are followed, and insects kept off, there is no difficulty in raising cauliflowers *provided* the seed be good.

Cultivation of Sea Kale.

"A. L.", of Green Co., Wis., writes that he has a plant in his garden raised from seed sent out by the Patent Office, for which he cannot find any name, and of which he cannot learn the use. The plant is described as enduring the winter and having leaves like the cabbage, only narrower and very heavy. We suppose the plant must be the Sea Kale, a vegetable much prized in Europe, and one which is but little known in this country. The seeds are sown in drills, in a seed bed, thinning the plants to 6 inches and keeping them well cultivated. The following spring a rich bed is prepared by trenching and manuring as for asparagus. The plants are to be set in rows, 3 feet apart and 18 inches in rows. Cultivate them through the season and in the fall when the leaves die, ridge the earth up over the crowns of the plants to the depth of 8 or 10 inches. The following spring,

SEA KALE.

the young shoots, which are the eatable portion, will push up through the ridge of earth, and are to be cut off while still crisp and tender, removing the earth for the purpose. The engraving represents one of the shoots. After the crop has been taken, the earth is levelled and manured, and a strong growth encouraged to prepare shoots for next spring. Each autumn the ridging is repeated. Good plants can be raised from cuttings of the roots about 4 inches long. The shoots are cooked and eaten like asparagus, and are very highly esteemed by many persons.

Okra—An Excellent Vegetable.

This garden vegetable is little known, except by those living near cities, but it is one which most people soon become very fond of when they use it. It is an annual, growing from two to six feet high, with rather coarse leaves, and light yellow flowers having a dark center. The plant belongs to the same family as the hollyhock and cotton, and the flowers of all three bear a strong resemblance. The young *pods* are the eatable portion. They are from four to eight inches long, and about an inch in diameter, angled, or several sided and tapering toward the upper end. These when tender are very mucilaginous, and are used for thickening soups and stews. The dish called *gumbo* at the South, consists of chicken stewed with these pods; and the same name is sometimes applied to the plant itself. The pods boiled in water and dressed with drawn butter, after the manner of asparagus, are much liked by many. Being of southern origin it requires a long season, but lately a dwarf and early variety has been introduced, which is adapted to northern climates. One ounce of seed will sow one hundred feet of row. The Improved Dwarf is the best variety; it should be sown when the ground becomes warm, in rich soil, in drills three feet apart, and the plants should be thinned to one foot in the row. During the summer the plants should be kept clean of weeds and be slightly hilled up in hoeing. The pods are cut when nearly grown, but still tender. The green pods are sliced and dried for winter use. The ripe seeds are among the many things which have been used as substitutes for coffee, and have been advertised as "Illinois Coffee."

TRY SOME DWARF PEAS.—Those who find it too much trouble to furnish the tall growing peas with brush or other support, should try some of the dwarfs, of which there are several varieties. They grow from 8 to 18 inches high, and are quite desirable for small gardens. Tom

Thumb is one of the earliest dwarfs; it grows only 8 inches high, and its pods all come to maturity about the same time, which is an advantage in a market pea, but not a good quality for one grown for family use. By sowing at intervals of a few days, this difficulty can be met, Bishop's Dwarf Prolific and Bishop's Long Pod are both good sorts, growing 1 and 1½ feet, and affording several pickings. Queen of Dwarfs is said to be fine; we tried it in a very dry season, and had a bad crop. The Strawberry Prolific is another good dwarf kind. McLean's Princess Royal is a recently introduced sort, highly commended in the catalogues. As it is not well to give them fresh manure, sow in soil already in good condition, as early as the ground can be worked. The drills may be 15 inches or 2 feet apart, according to the height.

What is Inside of a Plant.

If the reader has given attention to the articles with the above heading, in the previous two numbers of the *Agriculturist*, he has a general idea of the internal structure of plants, as shown by the microscope. There remain, however, one or two points to add to the account already given. The leaf is that part of the plant in which the great work is done of converting the crude sap, taken from the soil, into material fit

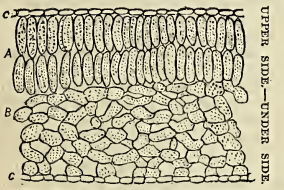


Fig. 10—SECTION OF BALSAM LEAF.

to add to the growth of the plant. It was hinted last month that the leaf contained cellular tissue which forms the soft part or pulp, and woody tissue and ducts of which the veins or frame work are composed. It will be of interest to examine now the internal structure of the *leaf*, or at least the arrangement of its cellular tissue. In order to this, an exceedingly thin slice is taken crosswise of the leaf, by means of a razor or very sharp knife; this being placed under the microscope will appear like fig. 10, which shows a magnified *edge* of the leaf of the common Balsam cut across. Here we have the simple cells described on page 49 (February), but

Fig. 11—EPIDERMIS OF LEAF.

lying so loosely together that they do not present the many-sided form seen in most other parts of the plant. In the upper part of the figure, which is the part towards the upper surface of the leaf, the cells, *A*, are elongated and packed quite closely together, while toward the lower surface they are of irregular shape, *B*, and lie quite loosely, so that there are large spaces or air passages between them. The leaf is covered, as are all portions of the plant, when it is young at least, by a thin, transparent skin or *epidermis*, which adheres more or less closely. The epidermis (outer skin) can be readily detached from the onion leaf; it appears like a thin film. This consists of a single layer of flattened cells placed side by side, and of various shapes in different plants. Fig. 11. shows the epidermis of the Balsam leaf as it appears when magnified; the cross section of its cells is shown in fig. 10. at *C, C*. The epidermis is impervious to air and water, and as this covers the leaf completely, the question may be asked, how then does evaporation, which we all know does take place from the leaf, go on? This delicate skin of the leaf, the existence of which is known to very few persons, is one of the most beautiful contrivances imaginable, and is only one of many wonderful things which lie all around us unnoticed. The leaf is a part of the plant which requires free communication with the air, in order that evaporation may go on, and that other changes, which require similar conditions, may take place within it. At the same time, such are the varying conditions of the atmosphere that evaporation should not proceed too freely, as liquids would be thrown off faster than they could be taken up by the roots, and the plant would wilt, as happens even now in a time when both the soil and air are very dry. To answer all the needs of the leaf, it is covered with this skin or epidermis which is generally impervious to air and vapor, and then at certain points it is provided with orifices which open and close as the condition of the plant demands. In fig. 11. are five double cells looking unlike the others there represented; these are the guards or doors to the openings of the epidermis, which communicate between the interior of the leaf and the atmosphere. These openings are called *Stomates* (from the Greek word for mouth), or *breathing pores*. Each of them is guarded by two cells; while the greater part of the epidermis is colorless these particular cells are green like those within the leaf, as indicated in the figure by the dots on them. These cells are very sensitive to the effect of moisture; when moist they swell and spread apart and afford a free communication between the air and the interior of the leaf; when dry they gradually contract and close the opening. In fig. 12 the left hand figure shows one of the stomates open, and the right hand shows one closed. It will readily be seen how this simple and beautiful apparatus works. When the air is moist, the breathing pores open and allow the passage of vapor and air; but when it becomes too dry for the good of the plant, they close and the functions of the leaf are in good measure suspended until a suitable condition of the atmosphere returns. These stomates are found much more abundantly upon the under surface of the leaf than they are upon the upper, as there they are shielded from the direct action of the sun. This will show the reason why the pulp or cellular tissue of the leaf is so much more loose and open on the under side, as is shown in fig. 10; the numerous open spaces or air passages in the tissue connect with these stomates, so that whatever the plant requires should pass in or out between the air and leaf, passes mainly through the under surface. The number of stomates varies in different plants. The under side of the apple leaf is said to have 24,000 to the square inch, while some others of different species have many more.

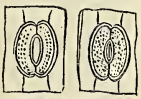


Fig. 12—STOMATES.

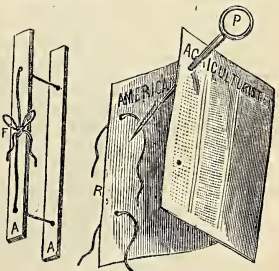
THE HOUSEHOLD.

Cigar-box Ornaments, Brackets, etc.

A leisure hour and a jack-knife are often well employed in executing some tasteful device, which may serve to ornament a room, or be valued as a gift by some friend. There are so many little gems of photographs now-a-days, so many pretty statuettes, and various ornamental objects, which are very well exhibited upon brackets, or in similar positions, that we give the accompanying engraving of a bracket made of the wood of a cigar box. Its construction is evident from the picture, and so simple that it needs no description. Similar brackets are made with but one support, placed under the center of the shelf; but as the writer happened to have the little owl's head (which is a natural one) the design was made with a view to its accommodation. It has given some of our friends pleasure, and some of the young readers of the *American Agriculturist* may take a hint which will give agreeable employment to their pocket cutlery. One's friends value such little things much on account of the neatness of execution, but more on account of the beauty and originality of design, and there is really no limit to the variety of styles and forms which may be made of this common and very cheap material.

Cheap File For Newspapers.

The "Jacobs" File for holding papers, offered in our premium list, is the neatest arrangement for the purpose we have seen; but many who do not care to go to the expense of such a one, will like an arrangement described by a subscriber to the *American Agriculturist*, S. B. Elliott, Tioga Co., Pa. It is not new, but is none the less useful for that: Take two pieces of stiff pasteboard, each the size of the paper when properly folded. These are for the covers. Make of hard wood, two strips, *A, A*, fig. 1, about ¾ of an inch wide, and 3-16ths of an inch thick, and as long as the covers. Through



NEWSPAPER FILE.

these bore two holes with a small gimlet, each hole about 3 inches from the end. Take a piece of narrow tape or good stout small cord, about two and-one-half feet long, and put it through the holes in one of the sticks. Make holes in the pasteboard covers to correspond with the sticks, and put the string through one of the covers, and you are ready to put in papers. *F*, represents the sticks and strings without either covers or papers. At *R*, is seen one stick and cover, and the manner of putting in a paper. To do this properly, lay one of the

sticks on the back margin of the paper and make the holes by that, so that they will all agree; then run the awl through the paper, draw the string into the slot in the awl, pull the awl back out of the paper and you have the string drawn through. Then put on cover and stick, draw the strings up tightly and tie them, and you have the whole thing complete. The awl, *P*, can easily be made out of a wire, such as is used for bails of pails, with the aid of a sharp cold chisel and good file.

The Bread Question.

The communication of a "Crusty Bachelor" in the January *Agriculturist* (page 22) has called out many responses, most of which give the reasons why good bread can not always be had. The following extract from the letter of "An Old Housekeeper," at Fremont, O., contains the substance of most of these replies: "The difficulty in the way of always having good bread is not that 'the process is so varied or uncertain,' or 'requires such a degree of acquired mechanical skill,' but that bread making though simple, is a *long process*. Could it be made in an hour or two, like pies or cake, it surely should be always good. But in winter, it must be commenced by six in the evening, and is not completed often until noon of the next day; in summer, by nine in the evening, and (every wind being propitious) it is out of the oven by ten next morning. Now, from the time of setting the sponge until it is safely baked, it requires no small amount of care and watching. It must be placed in exactly the right temperature for the night. The *first thing* in the morning it must be molded. After that '*one eye*' must continually be upon it. It must neither be too cold or too hot, and when it has reached the exact point of lightness, it must be remolded without delay. Next, the oven requires attention. That must be at the proper heat, and after the bread is in, it must not be forgotten until it is safely out."——Comparatively few housekeepers have so few other matters to look after that they can always take the requisite time to "see to the bread," hence, occasionally, a heavy, or sour, or burned loaf appears upon the table.

The above suggestions meet the case of many, and should lead the good man of the house either to provide more help, so that, as "Farmer's Daughter" suggests, one person may have time to give especial attention to the bread while in process of manufacture; or, if he can not afford this, should make him at least charitable enough to spare his wife's feelings when she is just ready to cry over her "bad luck."

There are, however, many inexperienced housekeepers who have never learned the process by which good bread can be made; and we presume it was for their benefit that our "Crusty Bachelor" started his question. Another correspondent, "Aunt Betsy" takes the same view of the case, and accordingly gives her method as follows: "I take 3 tablespoonfuls of flour and scald it with one pint of boiling water; let it remain until blood warm, and then stir into it one cup of good lively home-brewed yeast; cover it and set it in a warm place until it rises very light—from 3 to 5 hours. Then stir in flour enough to make a stiff dough, and knead thoroughly; cover, and let it staud until it rises. It must not be put in too warm a place—too much heat injures the bread—it needs about 65° Fahr. I make my sponge at noon and after tea make up the bread. Let it remain in a warm room over night, and in the morning it is risen sufficiently. I divide this dough into as many loaves as I wish to make, mould them into shape without kneading, set them in a warm place to rise and then bake."

A Maine "Farmer's Wife," gives the following directions for making yeast which she says she found in some newspaper, and which has proved to be excellent. Boil, say on Monday, 2 ounces of the best hops in 4 quarts of water for ½ an hour, strain it and let the liquid cool down to about 90°. Then put in a handful of salt and half a pound of sugar, beat up one pound of the best flour with some of the liquid, then mix well together. Two days after, add three pounds of potatoes boiled and well mashed. Let them stand together until next day, then strain, put into bottles and it is ready for use. It must be stirred frequently while it is making, and kept near the fire. Before using, shake the bottle well. It will keep in a cool place two months, and is best the latter part of the time. It ferments spontaneously, not requiring the aid of any other yeast, and if care be taken to let it ferment well in the earthen bowl in which it is made, it may be corked tight when first bottled.

Salt Emptyings.—Contributed to the *American Agriculturist* by Sarah D. Curtiss, Columbia Co., N. Y. To one pint of warm water add a teaspoonful of sugar, ¼ teaspoonful of salt, and butter the size of a walnut. Thicken them with flour—rye is the best. Set the dish containing the mixture in warm water. Stir the contents often during first three hours. Let it stand until light.

Economical Bread.—Contributed to the *American Agriculturist* by M. B. Stanley, near Westfield, Ind. Take scraps of flour bread, break in a pan or deep dish, cover it with milk, let it stand until soft, then mash. If very sour add half the amount of sweet milk, if not add sour milk; add ¼ teaspoonful of soda to the quart, two eggs and a little salt; stir in corn meal enough to make a batter; bake in a quick oven.

Bargains in Furniture—A Caution.

Many young housekeepers, and others who at this season are looking out for furniture, will naturally desire to "buy at a bargain." Opportunities for this are sometimes, but not often, found at auction sales. Second-hand articles usually bring their full value when eager purchasers are plenty; and when they are not, under-bidders (that is, persons employed by the owner to bid) are very frequently employed to keep the articles up to the mark. This latter practice is almost universal at the furniture auctions in this, and we presume, in other cities. The writer has seen the same articles sold day after day at auction rooms in New-York City.

A stranger in this city, or one not a stranger, but not of a suspicious nature, many easily be deceived by the auction sales of household furniture, which take place "on the premises." A house is hired by some party for a few weeks, furnished throughout with articles most likely to meet with a ready sale, and to comport with the general style of the house. Some houses are quite richly furnished, carpeted elegantly, the windows hung with rich appearing damask and lace curtains. Pier glasses, luxurious furniture, and *well-framed* pictures adorn the parlors. In the dining-room the extension-table displays upon immaculate linen a handsome dinner service, with full sets for each course; the side-board contains its furniture, and exhibits besides, breakfast and tea sets of china, with silver(?) urns and tea-pots, sugar-bowls, etc. The kitchen is completly furnished, too. So in the nursery; so in the chambers and the hall, every thing seems complete. Sometimes the nursery is half closed and, to make the deception the more perfect, a nice looking nurse with a child in her arms, or in a cradle, and with more or less child's fixins scattered about, may be seen doing the best she can to look quite at home. Let the visitor look about carefully at all and it will be observed that almost every thing is "bran new." The table-linen is of poor quality and not hemmed; the curtains are put up in the most temporary manner; the china has the *appearance* of elegance, but will not bear close inspection, for it is in reality of cheap quality; so with the showy, sham-substantial furniture; so with carpets (parlor, dining-room, and stair all of one pattern). So with every thing.

Watch the sale when it begins—nothing sells really cheap. The *bona fide* bidders stop, and then if there is likely to be a sacrifice on the article, persons employed by the auctioneer run it up or give it a closing bid, and it will be put up again as soon as the audience has changed a little.

It may be safely said that, on the whole, the best way to procure furniture, as well as other articles, is to go to some reliable dealer, pay a fair price and be content. The time and worry involved in hunting up cheap bargains, together with the probability of being humbugged first or last, are seldom offset by any real gain.

About Whitewashing.

The time for cleaning, and fixing up, has come, and one of the most important items is whitewashing. We often wonder that people do not do more at this. How much neater and more cheerful a whole place looks, if a few hours are spent in whitening the fences, the out-houses, the cellars, etc. It changes the whole appearance of the homested. One day's work thus expended will often make a place twice as attractive and add hundreds of dollars to its salable valuation. Whitewashing a cellar with lime not only makes it lighter and neater, but more healthful also. *For Cellars*, a simple mixture of fresh-slacked lime is best. *For House Rooms*, the common "Paris White," to be bought cheaply, is very good. We take for each 2 lbs. of whiting, an ounce of the best white or transparent glue, cover it with cold water over night, and in the morning simmer it carefully without scorching, until dissolved. The Paris White is then put in *hot* water, and the dissolved glue stirred in, with hot water enough to fit it for applying to the walls and ceilings. This makes a very fine white, so firm that it will not rub off at all.—When common fresh-slacked lime is used, some recommend adding to each 2½ gallons (a pailful), 2 tablespoonfuls of salt and ¼ pint of boiled linseed oil, stirred in well while the mixture is hot. This is recommended for out-door and in-door work.

For an Out-Door Whitewash, we have used the following with much satisfaction: Take a tub, put in a peck of lime and plenty of water to slack it. When hot with slacking, stir in thoroughly about ¼ pound of tallow or other grease, and mix it well in. Then add hot water enough for use. The compound will withstand rain for years.

What Makes Provisions Spoil?

As warm weather returns, the perplexities of the housekeeper are greatly increased by the difficulty of "keeping things sweet," as it is termed. Meat, bread, milk, preserves, in short, provisions of all kinds must be carefully looked after, or there will be sourness, taint, mould and other unpleasant phenomena in the cellar and pantry, and "these things are so provoking," that few housekeepers can always keep even their temper sweet under such difficulties. An understanding of the way in which these changes occur, the causes which produce them, and the circumstances wich favor them, will aid in their prevention. Those who by long practical experience have learned to avoid the difficulty, may be interested to know *why* their methods are successful.

The staple articles of food most liable to be spoiled—meat, eggs, flour, milk, and their compounds—each contain a substance called *albumen*. The white of an egg is almost pure albumen. It forms about seven per cent. of the blood, and makes a part of all flesh and many of the juices or secretions of the body. A similar compound is found in vegetables and seeds. Albumen is made up of the elements carbon, oxygen, hydrogen and nitrogen, with a little sulphur and phosphorus. The muscular parts of fleshy fiber, called *fibrin*, and the albumen in the blood consist of the same elements as the albumen of the egg, except that they contain less of sulphur. Wheat flour contains a large portion of the substance called *gluten*, made up of the same constituents as fibrin. In milk there exists a compound named *casein* (the cheesy part) which is made of the same elements that constitute albumen, fibrin and gluten, though they are not present in exactly the same proportion. The different substances have a strong family resem-

blance both in their composition and their behavior. In each of them there is only a very slight attraction between some of their numerous elements. The element nitrogen, which enters largely into their composition, is especially fickle. A little too much warmth, or moisture, and it seems to become restless, and leaving its hold of the other elements, allows oxygen (which forms a large part of the surrounding air) to seize upon some of them and form an entirely new class of compounds. The carbon of the albumen uniting with the oxygen escapes in the form of carbonic acid; part of the nitrogen and hydrogen unite and give off the pungent ammonia; the sulphur makes an *offensive*, if not a defensive, alliance with another portion of the hydrogen, and flies away as sulphuretted hydrogen gas, one of the worst smelling gases known; and, by these and other combinations, the whole structure of the substance is changed; this is called *putrefaction*.

When once putrefaction has commenced in any part of a compound, it spreads with great rapidity. As in the working of social revolution, every individual atom seems excited with desire for change. The smallest portion of putrescent matter introduced into a mass containing the elements above named, will speedily lead to its complete disorganization. Evidently then, one of the first precautions suggested to the housekeeper is the necessity of entire cleanliness of all utensils and apparatus connected with provisions. The slightest taint in a barrel will communicate itself to the beef or pork which may be packed there. A little decomposing dough in the kneading trough will make mischief with bread; uncleanly milk pans will contain enough putrescent *casein* to set the whole contents into active decomposition, and thus with other articles. Hot water, soap, and the scrubbing brush are the efficient guards against insidious attacks of the destructive agent, and these should be constantly on duty where there is exposure to danger. Other interesting facts connected with the preservation of eatables will be presented when space allows. *

Spinach at Home and Elsewhere.

Hurbert says: "When I get spinach at a restaurant or hotel I have a most delicious vegetable, but at home, Bridget gives us only a dish of greens; what makes the difference"? The difference here as in many other things lies in the cooking. Spinach is sometimes utterly spoiled by cooking with meat or with other vegetables. At other times it is simply boiled and skimmed out of the water and sent to the table without other preparation. To have spinach nice; wash and pick it over and then throw into *boiling* water and let cook until done, drain on a colander and chop fine. Then put in a saucepan a lump of butter as large as an egg for each quart of chopped spinach, and when melted, put in the spinach, let it simmer until thoroughly heated through, and serve with slices of hard boiled egg laid over it. Some vary the dish by adding a little flour and milk at the last cooking; some chop the spinach before boiling and proceed as above.

Hints on Cooking, etc.

Plain Indian Pudding.—Contributed to the *American Agriculturist* by Frances W. B. Robbins, Suffolk Co., N.Y. Place 2 quarts of milk in a vessel over the fire; into this stir slowly a cup of Indian meal, one cup of molasses, and butter the size of an egg. As soon as it boils pour the whole into a baking pan. When cold add two eggs, well beaten, and bake two hours.

Rusk.—Contributed to the *Agriculturist*, by Mrs. David Brush, Queens Co., N. Y. To 1 pint of milk add 1½ teacups of sugar, 1 egg, a lump of butter the size of an egg, and stir in flour enough to make it a little thicker than cream. Set the sponge over night, mix it up in the morning. Mould into biscuits immediately after mixing, and place in the pan for baking. Let them stand in a warm place until their size is doubled. Bake in a moderate oven half an hour. Immediately after taking from the oven wash their tops with molasses and water.

Corn Cake.—Contributed to the *American Agriculturist* by Miss L. E. Hewins, Norfolk Co., Mass.: "To 2 cups of Indian meal add 1 cup of flour, 2 eggs, 1 teaspoonful each of saleratus and cream of tartar, ½ cup of sugar, salt to the taste; mix with new milk quite thin (so it will pour easily), and bake it well in a quick oven."

Fruit Cake.—Mix 1½ lbs. bread dough, ¾ lb. sugar, ½ lb. butter, 4 eggs, 1 lb. raisins, 1 lb. of currants and spice to the taste.

Fancy Crullers.—Mix 4 eggs, ¼ lb. of sugar, ¼ lb. of butter, 1 teacupful of sweet milk, 1 teaspoonful of soda, and two of cream of tartar, the last two dissolved separately in as little water as possible; add sufficient flour to roll well. Shape by tying two knots and putting the ends through.

BOYS & GIRLS' COLUMNS.

A Garden for Every Child.

One of the most attractive gardens the writer has ever seen, is in a narrow crowded street in New-York City, where the land is worth more than a dollar a square foot, and buildings are packed together as closely as it is possible to place them. As there is not space for wide houses, most of them have been run up four, five or six stories high, and every room is occupied with goods for sale, or machinery and workmen, and here and there, clear up in the topmost story, live a family of poor people. The garden we have in mind, belongs to such a family. "Do they make it in the yard?" asks some little girl who has never visited the City. No, there are no yards there. The houses occupy all the ground except the street, and that is covered with paving stones so thickly that you could not grow a radish between them. "Where then can this wonderful garden be?"—It is on the window-sill in the highest story of a house, in front of a room occupied by a poor woman and her three little girls. It is only three feet long, and about one foot wide, made in a box filled with earth and fastened to its place in the window in summer, but carried within during winter. From it grow two Morning Glory vines which twine around the window frame; a montly rose blooms in the center, and a Geranium and a Mountain Daisy complete the garden. "Why that is not much!" says some young reader. Perhaps not to you, nor to the thousands of people that pass that way every day without even caring to glance at it, but to those three little girls it brings more pleasure than many a rich man enjoys from extensive grounds and costly green-houses. *They cultivate the flowers themselves.* They know every bud and leaf and blossom; they have watched them day by day, welcoming each tiny shoot as it peeped forth from the parent stem, petting each bud as though it could understand their prattle, and a joy has sprung from every flower to nestle in their own hearts. These children are gentler, kindlier and more loving, for their care of their little garden—can you wonder that we say it is most attractive? Is it not a beautiful thing?

Now who can not have as large a garden as this, and find it as great a source of happiness? Most of the girls and boys of the *American Agriculturist* family live where there is room for them to plant and train many flowers, and even fruits, and vegetables. Begin the work this spring. Do not undertake too much, ask for the use of only so much ground as you can attend to well; learn, by watching others, by reading, and by inquiring what and how to plant and cultivate; and before the summer is over you will find more pleasure than a whole candy shop or a toy store could give, even if it were all your own.

A Curious Animal—Trumpet Rat.

A scientific Frenchman was one day greatly surprised at the appearance of a strange looking animal in the possession of a soldier. It looked like a rat, but had a long proboscis or trunk, shaped like a small trumpet, growing from the end of its nose. The gentleman immediately purchased it at a high price, and his scientific friends to whom he showed it were entirely at a loss to what species it belonged. The animal was a male, and the gentleman anxiously desired a female also, that he might breed them, and after some trouble he procured one from the same soldier. In due time a litter was produced, but they proved to be nothing more than common rats. Upon inquiry, it turned out that the soldiers had amused themselves by *grafting* the tail of one rat into the nose of another, and confining them until the parts had grown together, after which the *trumpet* was cut off from its original owner, and left as an appendage to puzzle the learned. (?)

Curious Arrangement of Figures.

A correspondent at Marion, O., asks the arithmetical readers of the *American Agriculturist* to explain the *principle* or reason for the following results: Multiply 12,345,679 by each of the following numbers: 63-27-54-18-36-45-9-81 and 72; then add the products of multiplication, then add 5. Now if one figure be dropped, the remainder will be nothing. This, however, is the least curious part of the result. Each product will consist of the repetition of a single figure, and that figure will be greater by one than the tens figure of the multiplier. Again, the figures of each product added together will give the multiplier. And still further, when the products are arranged in columns for addition, the sum of each single column will be the same, and will equal the sum when the figures are added diagonally.

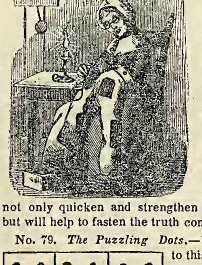
Answers to Problems and Puzzles.

The following are the answers to the *Puzzles* Nos. 72, 73. 74, 75, and 76 in March No., page 87.—No. 72, *Mathematical Problem.*—Length of the smaller circular track, 31.416 ft.; of the larger, 62.832 ft.—No. 73, Fig. I. *A coxcomb is a vane (vain) man.*—No. 74, Fig. 2. *Soldiers are pleased with a fur low (furlough).*—No. 75, Fig. 3. *The prickly pair (pear) is abundant at the South and West.*—No. 76. *Illustrated Rebus.—Bear miss four tune with forty two d*—or Bear misfortune with fortitude. The following have sent correct answers to March 5th: John Cotton 76; J. Rogers, 66; Bertha De Verry, 67; "U" 71; Walter M. Belden, 66, 69; Justin Britton, 66; Enoch Hayes, 66; Fred. J. Newman, 66; G. A. Penniman, 66, 68, 71; E. N. Jones, 66; Frank Ferris, 66; Reader at Assumption, Ill., 66, (why did you not sign your name?); C. W. McComb, 66; Wm. C. Johnson, 64, 66, 69; "B. K. N.," 66, 69; Pulver Husted, 66; David K. Merriman, Jr., 70; Wm. H. Hollister, Jr., 66; A. L. Green, 69; Leslie S. Fields, 66; George Almon Giddings, 66; Wm. L. F. Fox, 66; David Edwards, 69; Ermon A. Hull, 64, 69; Hattie E. Turner, 66; Ellen Taber, 66; Geo. W. Morse, 66; Robert Markwick, 66, 68; "H. S. W.," 64, 66; John F. Holmes, 66; "Hans," 69; H. H. Rudolph, 66, 71; J. N. Insley, 66; Louis H. Jackson, 66; John A. English, 66; Dora and Ada, 66; W. Wetmore, 66; George M. Gould, 66; A. F. Bradley, 66; Fannie J. Minor, 66; Reader at Palmyra (no name) 66, 69; G. H. Hays, 66, 69; Richard H. Wilson, 66, 69; S. P. Bosley, 66, 69; D. H. Trently, 62, 63, 64, 66; "Subscriber," 70; H. H. Osgood, 66, 69; J. Wittmer, 66; G. Wachter, 66.

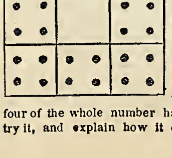
New Puzzles to be Answered.

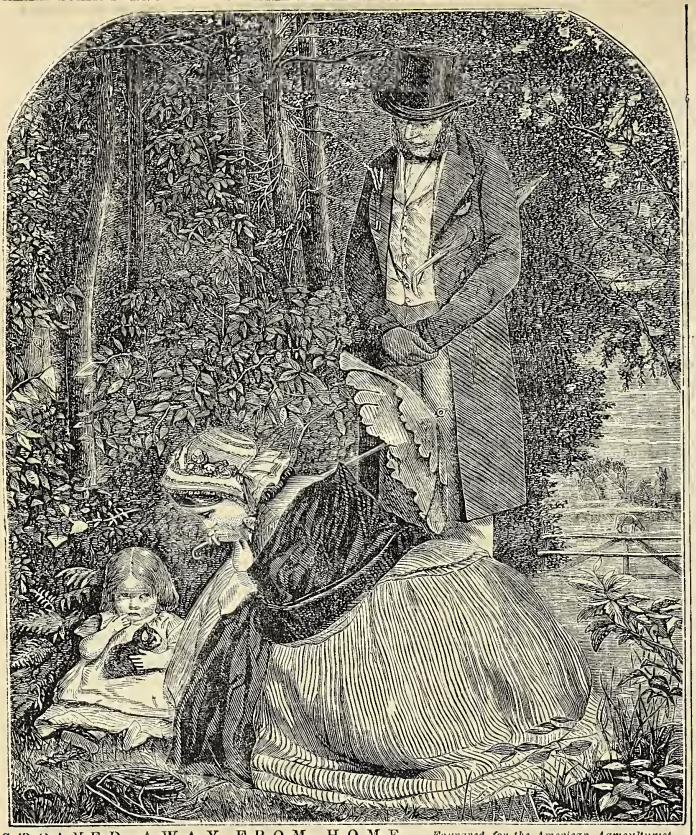
No. 77. *Illustrated Rebus.*—Good advice for all.

No. 78. *Pictorial Proverb.*—This is the first of a series of proverbs, most of them pretty generally known, which we propose to illustrate in the *American Agriculturist* for the amusement and instruction of our young readers. To discover what the proverb is, study the whole picture, and when you have found the answer, you will perhaps wonder that you did not call it to mind at the first glance. Puzzling over the subject will not only quicken and strengthen the observing powers, but will help to fasten the truth contained in the proverb.



No. 79. *The Puzzling Dots.*—Draw a figure similar to this one, on a slate. You notice that there are four dots in each square, and three squares on each side, making twelve dots on a side. The puzzle is to rub out *eight* of these dots, and then replace only *four* of them in some of the squares, so that they shall still count twelve on a side, although four of the whole number have been removed. Please try it, and explain how it can be done.





STRAYED AWAY FROM HOME.—*Engraved for the American Agriculturist.*

What May be Seen in the Picture.

A little girl lost in the woods! No wonder the kind lady and gentleman who happened to pass that way are interested. Every girl and boy who looks at the beautiful picture feels sympathy for the sweet little child who has strayed away from home, with her pet kitten in her arms. Her face plainly tells us that she knows something is wrong; she does not fully feel that she is lost, or she would be crying. She is shy of the stranger lady, and there is also something in her expression which says, "I know I was naughty to go away when mamma told me not to leave the door-yard."—How much the artist has told in this simple and touching sketch. As we look at it we cannot help thinking of the tens of thousands of our young readers who are in danger of sometimes forgetting that father and mother know best, and of being beguiled away like this little child, into ways that will at last bring them trouble and sorrow. She cannot realize that the sun will not always shine so bright, nor the flowers look so beautiful, nor every thing be so pleasant around her. She thinks not of night and cold and hunger that must come soon, if she be not restored to her home, any more than that wilful boy can now see that playing truant from school, disobeying his parents, or indulging in wrong pleasures of any kind, will end in sadness and, it may be, in ruin. The thoughtless girl who is not content with the simple enjoyments of home, but who, in spite of the warnings and entreaties of her mother, persists in joining the follies of her gay companions "because she can't see any harm in it," should study this picture, and remember that there are evils which older persons *can* see, from which they would save her by their counsel.—We have another beautiful picture, already engraved for the next month, showing what afterward happened to this same little lost one.

AN INGENIOUS JUDGE.—Three brothers were heirs to their father's oxen, seventeen in number. By the Mahommedan law of inheritance, the eldest brother was entitled to one half, the second one to one-third, and the youngest to one-ninth of the whole number. As the animals could not be divided without destroying them, the subject was referred to the commander of the faithful, Ali. The caliph added an ox to the number, and then made the division. This gave each brother more than his share—the eldest nine, the next six, and the youngest two—and still left to the prince the ox which he had added.

The Sanitary Commission and the Scotch Woman.

The following touching incident illustrates the kind of work which is being accomplished by the noble Sanitary Commission. A Scotch woman, after nursing her wounded son until he was almost well, found her money so nearly gone that she could not remain with him; yet she could not bear to leave him dependent only upon the ordinary hospital supplies, lest as she said "he shouldn't be so well." A kind friend took her to a storehouse to procure a few luxuries for her boy. He ordered a supply of sugar, tea, soft crackers and canned fruit, then chicken and oysters, then jelly and wine, brandy, milk, and underclothing, until the basket was full. As the earlier articles nestled under its lids, her face was glowing with satisfaction; but as the later lots were being added, she would draw him aside to whisper "It was too much,"—"really she hadn't enough money;" and when the more expensive items came from the shelves, the shadow of earnestness which gloomed her countenance grew into one of perplexity, her soul vibrating between motherly yearning for the lad on his bed and the scant purse in her pocket, until, slowly, and with great reluctance, she began to return the costliest. "Hadn't you better ask the price?" said her guide.—"How much is it?"—"Nothing," replied the storekeeper.—"Sir!" queried she, in the utmost amazement, "*nothing* for all this?"—"My good woman," asked the guide, "have you a soldiers' aid society in your neighborhood?"—"Yes, they had; she belonged to it herself.—"Well, what do you suppose becomes of the garments you make, and the fruit you put up?" She hadn't thought,—she supposed they went to the army,—but was evidently bothered to know what connection there could be between their aid society and the basket. "These garments that you see came from your society, or other societies just like yours; so did these boxes and barrels; that milk came from New-York; those fruits from Boston; that wine was likely purchased with gold from California; and it is all for sick soldiers, your son as much as for any one else. *This is the kind of work done by the United States Sanitary Commission.*"

Eccentric Fowls—Habits of Animals.

A young reader of the *American Agriculturist*, Wm. Millard, Fairfield Co., Conn., who evidently knows how to use his eyes and ears, describes the peculiar ways of some of his fowls. One of his roosters is a most attentive gallant. He not only scratches about to find choice morsels for the hens of his family after the manner of common roosters, but busies himself in making nests for the hens, and when one of them tells the world what a fine egg she has laid, he never fails to cackle also with all his might, probably by way of compliment for her praiseworthy performance. Our young friend has named one of his pullets "the barber," because on rainy days she devotes herself to arranging and dressing the top knots of her companions. She is also a very ambitious character, and sometimes leads the flock around with all the strutting and peculiar airs of a male bird. Not long since, while parading in this manner, she completed the performance by trying to crow, when she made such a frightful noise that her companions fled in dismay. Our young friends may find much amusement and instruction in observing the peculiarities of the various inhabitants of the farm-yard. Each animal will be found to have its own individual character more or less strongly marked. Every farmer knows that some cows are better mothers than others; that some sheep are naturally wild and restless, always leading the flock into mischief, others quiet and orderly; and so with every brute creature. One who makes animals a study will soon learn how to control them for his own use. This is seen in the mastery of the horse, gained by Rarey and others, and also in the wonderful power which trainers of wild animals possess.

A Remarkable Dog.

Many years ago a jeweller in New-York City employed one of his clerks to sleep in the store to protect it from burglars. He was usually armed with a pistol, but one night for some reason this had been left at his home, and on this very night he was awakened by the noise of some one at work at one of the rear shutters. He walked noiselessly to the place, and discovered that a burglar was sawing out a hole through which he might put his hand, and draw the bolt that held the shutter. Although alarmed, he did not lose his presence of mind, but carefully lifted the window next to the shutters. He then commenced to growl in imitation of a dog, and let off a series of loud and furious barks, "Confound the brute," exclaimed a voice outside. "No matter," said another voice, "go ahead, we can soon fix him." The clerk continued his barking, but this did not stop the burglars. Just as the hole was completed, and a hand was being thrust through, he luckily noticed a large pair of pincers near, which he grasped, and as the hand fully appeared he gave it a tremendous nip and held it fast, all the while growling and whining frantically. "Oh! oh! he's fastened me," shrieked the burglar, struggling to get loose. But the clerk held on with the pincers, and just then a watchman in the street came in sight, the burglar's companion ran, and he himself was quickly discovered and secured. The clerk's ingenuity thus saved his master's goods, perhaps his own life, and secured to himself a handsome reward from the owner of the store.

Two Rogues Instead of One.

An amusing incident is related of a woman in England whose husband, a wealthy man, died suddenly without leaving any will. The widow, desirous of securing the whole property, concealed her husband's death, and persuaded a poor shoemaker to take his place while a will could be made. Accordingly he was closely muffled up in bed as if very sick, and a lawyer was called to write the will. The shoemaker in a feeble voice bequeathed *half* of all the property to the widow. "What shall be done with the remainder?" asked the lawyer. "The remainder," replied he, "I give and bequeath to the poor little shoemaker across the street, who has always been a good neighbor and a deserving man"; thus securing a rich bequest for himself! The widow was thunderstruck with the man's audacious cunning, but did not dare expose the fraud; and so *two* rogues shared the estate.

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See pages 71 and 93 March *Agriculturist.*

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Russell's Strawberry. Russell's Strawberry. Russell's Great Prolific. Russell's Great Prolific.

The best, largest, and most prolific Strawberry known, measuring 5 to 6 inches in circumference. Plants of this New Strawberry ready in April, $2 per doz. $10 per 100. Cash to accompany orders. Also Iona Grape Vines, Fruit and Ornamental Trees, etc. Address T. & E. SMITH,
Geneva Nursery, Geneva, N. Y.

Strawberry Plants

Of best quality of all the leading varieties, for Spring planting at reduced prices. Wholesale and retail. Order early New price list ready. E. WILLIAMS, Mont Clair, N. J.

La Constante Strawberry.

The largest, handsomest and best of all Foreign Strawberries, hardy, productive, and of superior quality. Plants, 75 cts. per doz., $3 per 100. Also, Triomphe de Gand, Empress Eugenie, Nap. III., Marguerite, and others, $1 per doz. Hovey's Seedling and Boston Pine (genuine plants), $1 per 100. Address HOVEY & CO., Boston, Mass.

Russell's Prolific Strawberry.

Visitors to the *Agriculturist* office will remember the Splendid Show of this unequalled Fruit by me last season. Having a fine stock, I offer fine quality plants at $1 per doz., $5 per 100. Also, Triomphe de Gand at 35c. per doz., $1 per 100, $6 per 1000. 15c. per doz. extra by mail.
EDWIN MARSHALL, Poughkeepsie, N. Y.

STRAWBERRY PLANTS.—Austin, Bartlett, Brighton Pine, Cutter, Downer, Fillmore, Hooker, Triomphe de Gand, Russel's, Victoria, Ward's, Wilson, etc. In large or small quantities.

Currants.—Cherry, White Grape, Red and White Dutch.

Grapes.—Clinton, Concord, Hartford Prolific, Diana. Delaware, etc. Address E. WILLIAMS, Mont Clair, N. J.

RUSSELL'S GREAT PROLIFIC STRAWBERRY is undoubtedly the best strawberry yet known. Good healthy plants by mail post-paid $1 50 per dozen. Also by express, Wilson's Albany Seedling per 1000, Hudson River Antwerp, $4 per 100. Cash to accompany orders. O. J. TILLSON, New Paltz Landing, N. Y.

NEW STRAWBERRIES, &c.

All persons wanting the **Newest and Best** varieties of Small Fruits are requested to send for the Price List of the Poughkeepsie Small Fruit Nursery.
EDWIN MARSHALL, Poughkeepsie, N. Y.

NEW FRUITS.

RUSSELL'S PROLIFIC STRAWBERRY, undoubtedly the best variety now extant. Strong plants by mail post-paid $1,50 per dozen. By express $9 per 100.

GREEN PROLIFIC STRAWBERRY produced by Seth Boyden, Esq., and second to none, except perhaps Russell's, and in many points equal to this famous variety. Plants by mail $1 per dozen—by express $6 per 100.

LINDSLEY'S FASTOLF SEEDLING RASPBERRY. Produced by Jas. B. Lindsley, Esq., of Orange, N. J., and being PERFECTLY HARDY will undoubtedly prove the best variety yet introduced. Strong canes by mail $3 per dozen.

BIGGAREAU DOUBLE CHERRY.—A French variety of recent introduction, a very valuable acquisition, being large, fine flavored, productive and early, ripening middle of June. Strong trees, one year from bud, 6 to 8 feet, 75 cents each, packing included, or 50 cents each when ordered with other trees.

Circulars descriptive of all the above, and general catalogue of Seeds, Trees, Bulbs, &c., mailed free to all applicants.
FRANCIS BRILL, Nurseryman and Seedgrower,
Newark, New-Jersey.

50,000 Myatt's Wine Plant.

(The Genuine Linnæus Rhubarb.)

For Sale by

KING & MURRAY,

Flushing, L. I., near New-York.

They also offer for Sale every variety of

Fruit and Ornamental Trees. Evergreens and Shrubs. Grapes and Small Fruits, &c.

They would call particular attention to their stock of STANDARD PEARS, which is very fine.

Choice Seed.

Among the new, rare or very desirable vegetables for 1864, I would invite particular attention to the following. Yokohama Squash (new, from Japan), White Japanese Melon, Ward's Nectar Melon (most excellent, very prolific), Marblehead Mammoth Drumhead Cabbage (the largest cabbage in the world), Turban Squash (best of all Fall squashes) Early Paris Cauliflower (very early and very reliable), Pierce's Cauliflower (the standard late in Boston market), Waites' New Alma Cauliflower (this is a famous new English variety). Each of the above 25 cts. per package, the eight for $1.75. Forty days corn (two weeks earlier than any standard sort), Mexican Sweet Corn (the sweetest of all corn), Speckled Lima Bean (a choice, new sort), French's Imperial Cabbage Lettuce (I rank this at the head of all the Cabbage Lettuces), Boston Curled Lettuce (most elegant of all, excellent), Concord Bean (new, most elegant, very desirable), California Bean (new, large, prolific), Large Persian Musk Melon (a fine, large variety), Chinese Rose Winter Radish (seedsmen consider this quite an acquisition), Fejee Bean (the earliest and hardiest of all Beans), Butter Bean (excepting the Lima, this is the best of all green shell beans), Indian Chief Bean (the best string bean), New-Jersey Hybrid Cucumber (as extra large white spined variety), Scarlet Chinese Egg Plant (an elegant ornament), Lester's Perfected Tomato (very large, thick meated), Upright Tomato (the new French sort), Extra Early York Tomato (very early, prolific, of good market size), Ornamental Gourds (many varieties in a single package), Hubbard Squash (seed very rare), Tom Thumb Pea (very early, grows 10 inches high, yields finely), Boston Market Celery (the best celery raised), Golden Sweet Corn (a sweet table corn of bright golden color), Sorghum Seed (pure imported seed), Brills' Extra Large Purple Egg Plant, Mammoth Chihuahua Tomato (sometimes weighs 2½ lbs.). Each of the above at 15 cts. per package, the 25 varieties for $3.00.—My Annual Circular, now ready, contains further description of each of the above, and a list of over 200 varieties of choice, reliable Garden Seed, many of which are of my own raising. Sent gratis to all. As the original introducer of the Hubbard Squash, Marblehead Mammoth Cabbage, and other choice vegetables, I invite the patronage of the public.

JAMES J. H. GREGORY, Marblehead, Mass.

Vick's Illustrated Catalogue of Seeds, and

Guide to the Flower Garden for 1864.

My NEW CATALOGUE AND FLORAL GUIDE is now published and ready to send out. It contains accurate descriptions of the leading Floral Treasures of the world, with FULL and plain directions for SOWING SEED, TRANSPLANTING and GENERAL CULTURE. Also a list of Choice Seeds for the **VEGETABLE GARDEN,** with necessary instructions for PLANTING and CULTURE.

My NEW CATALOGUE and FLORAL GUIDE is a beautiful work of FIFTY large pages, illustrated with TWENTY-FIVE fine engravings and one splendid COLORED PLATE of the DOUBLE ZINNIA. It will be sent, postage paid, to all who apply inclosing ten cents.

Address JAMES VICK, Rochester, N. Y.

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I will mail free to all applicants my Catalogues of Bulbs, Seeds, Trees, Vines, Shrubs, Strawberries &c.

Also descriptive circulars of the GREEN PROLIFIC STRAWBERRY, produced by Seth Boyden, Esq., and the great RASPBERRY, LINDSLEY'S FASTOLF SEEDLING, PERFECTLY HARDY, raised by Joseph B. Lindsley Esq., of Orange, N. J., and placed in my hands for distribution. Address FRANCIS BRILL, Nurseryman and Seedgrower, Newark, New-Jersey.

FLOWER SEEDS BY MAIL

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The following collections have been formerly known in every section of the country for the past *ten years*. Those who have tested them recommended them freely to their friends, and the most satisfactory reports are daily received of their good quality. They are all of our own selection, and contain none but the most desirable varieties, of the earliest culture.

No. 1. Contains twenty choice varieties of Annuals.....$1.00
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No. 5.—Contains fifteen very select varieties of Greenhouse Seeds.....$3.00
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Embracing many NEW and BEAUTIFUL Varieties, as well as a

SELECT LIST OF ROSES.

Now ready for Distribution.

ANDREW BRIDGEMAN
878 Broadway, New-York.

SEEDS. SEEDS.

We call the attention of Farmers, Gardeners and Dealers, to the Stock of Seeds we have now in store, the quality of which is superior to any we have heretofore been able to offer. In it is embraced all the **Valuable New Seeds** and the most approved sorts of former introductions, both of American and Foreign Growth, which can be relied upon for freshness and purity.

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Peas, Beans, Beet, Broccoli, Cabbage, Cauliflower, Celery, Cucumber, Egg Plant, Endive, Kale, Leek, Lettuce, Melon, Okra, Onion, Parsley, Parsnip, Pumpkin, Radish, Spinach, Squash, Tomato, and Turnip Seeds of all varieties.

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Spring Wheat, Barley, Oats, Buckwheat, and Rye, Large and Small Millet, Flax, Cotton, Vetches, Tobacco, Spurry, Salsafoin, Broom Corn, Chicory, &c., &c. Red and White Clover, Lucerne, Timothy, Red Top, Fowl Meadow, Rye Grass, Blue Grass, Orchard Grass, and Mixed Lawn Grass.

HERB SEEDS.

Herb Seeds of all kinds.

Garden and Field Corn

in great variety.

FRUIT SEEDS.

Apple, Pear, Quince, Cherry, Currant, Strawberry, Plum, Apricot and Peach.

Forest and Ornamental Tree Seeds.

FLOWER SEEDS OF ALL STANDARD VARIETIES.

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All valuable **Books** on **Agriculture, Horticulture** and **Farm Tools.**

Seeds sent by mail to all parts of the country.

Price Lists of Seeds and Descriptive Catalogues of Agricultural Implements sent on application,

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COLLECTIONS OF KITCHEN GARDEN SEEDS,

BY MAIL, POST-PAID.

Twenty varieties, our selection.....$1.00
Forty-five " " " 2.00

The above collections embrace all the leading varieties of Vegetable Seeds usually grown in our gardens. To those who desire larger quantities, we would recommend our collections at $20.00, or $15.00, or $10.00, or $5.00 and $3.00, suitable for large or small gardens, which can be safely forwarded by express to all parts of the world. A list of the contents of each collection will be found in our NEW DESCRIPTIVE CULTURAL CATALOGUE, which will be sent to all applicants upon receipt of two three-cent stamps. Address,

B. K. BLISS, Springfield, Mass.

Cane Seed! Cane Seed!

Sorgo, Oom-see-a-na, Nee-a-za-na (or White Imphee), and Otaheitean Cane Seeds, selected with the greatest care, unaffected by frost and reliably pure, for sale by

BLYMYER, BATES & DAY,
Mansfield, Ohio.

THE NEW SQUASH!

The Turban or Turk's Head Squash.

Since I introduced the Hubbard as the best of all **Winter** squashes, I have been seeking for the public a first class squash for **Fall** use. After spending six years in carefully testing many new varieties, I am satisfied that the Turban is decidedly the best of all squashes for Fall use. It is very dry, very fine grained and rich flavored, (the Hubbard has little or no flavor in the Fall,) and is the thickest meated and heaviest in proportion to its size of all squashes. It grows to a good size for family use, yields well, and is most excellent either for the table or for pies. In competition with all other varieties my Turban received the prize for quality next to the Hubbard at the late great exhibition at the rooms of the American Agriculturist.—Recommendations from Seedsmen, Editors of Agricultural papers, Provision Dealers and Farmers, with a fine engraving of the squash will be found in my Circular, which I shall forward gratis, to all my former customers; hence they need not write me for it. To all others it will be sent gratis on application.

Price per package of 50 seed—25 cts.; five packages for $1.

JAMES J. H. GREGORY,
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Flower Seeds, Delaware Grape

VINES, flowering plants, &c., in variety. Sent by mail. Catalogues gratis. Address

H. B. LUM, Sandusky, Ohio.

Goodrich's Seedling Potatoes.

I published in January a notice that I would not sell my Seedling Potatoes—such as the Cuzco, Garnet Chili, Pink-eye Rusty-Coat, and others, next spring. I also offered to send my Sale-bill, describing these sorts, to such persons as would send for it. I likewise hinted that probably I might sell a New Early Seedling in the spring. Now I wish to give notice that I can send those Sale-bills no longer, that I shall not sell that new Seedling. If the farmers will leave me entirely at rest, I may possibly recover health so that they may hear from me next year.

CHAUNCEY E. GOODRICH,
Utica, N. Y., March 1st, 1864.

SEEDS FOR THE FARM AND GARDEN,

Mailed post-paid to all the Loyal States. The following list of Seeds, the purity and vitality of which can be confidently recommended, will be mailed as above, upon receipt of the prices affixed:

	Per oz.	*½ lb.*	*lb.*
Beets—White French Sugar, Mangel Wurtzel	5c.	$0.50	$0.50
" Early Bassano, Turnip, Long Blood	.10	0.40	0.75
Cabbage—Early York, Large York	.20	1.25	2.00
" Large Drumhead and Golden Savoy	.20	1.50	2.50
" Premium Flat Dutch, Red Dutch	.20	1.50	2.50
" Winningstadt, Stone Mason	.25	1.75	3.00
" (Marblehead Mammoth very large, per packet 25 cents.)			
Cauliflower—Half Early Paris (the very best)	1.00	7.00	13.00
Carrot—Improved Long Orange, extra deep color	.10	0.75	1.50
" Altringham, White Belgian	.10	0.60	1.00
" Extra Early Short, Early Horn	.10	0.75	1.25
Celery—Incomparable White, Mammoth Red	.20	1.30	2.50
Cucumber—Early Russian, Long Green	.20	0.80	1.50
" Early Frame, White Spine	.10	0.50	0.75
Kohl-Rabi—Early White, Purple	.20	1.25	2.00
Lettuce—Early Silesia, Summer Cabbage	.20	1.25	2.00
" Large India, Boston Curled, Paris Cos	.25	1.60	3.00
Muskmelon—Green Citron, Nutmeg, Christiana	.10	0.75	1.25
Onion—Yellow Danvers, White Portugal	.25	1.75	3.00
" Red Wethersfield	.20	1.25	2.00
Parsnip—Long White, Hollow Crown	.10	0.50	0.75
Radish—Early Frame, Olive Shaped, Salmon	.10	0.40	0.75
Salsify	.20	1.25	2.00
Spinach—Round and Prickly	.10	0.30	0.50
Squash—Summer Crookneck, Scallop	.10	0.40	0.75
" True Boston Marrow	.15	0.80	1.50
" Hubbard (true)	.10	1.10	2.00
Tomato—Early Red, Round Smooth	.20	1.25	2.25
" Fejee Island, Large Yellow	.25	1.50	2.50
" New Erect French—grows upright per packet, 10 cents.			
Turnip—Early Dutch Red Top	.10	0.40	0.75
" Ruta Baga, Skirving's, Laing's	.10	0.30	0.50

..Prices for larger quantities will be given upon application.
Address, B. K. BLISS, Springfield, Mass.

GARDEN SEEDS, BRIDGEMAN'S

Annual Priced List of

Vegetable Seeds, &c.,

is ready for delivery.

ALSO

His Descriptive Catalogue of FLOWER SEEDS,

including FLORAL NOVELTIES for 1864.

ALFRED BRIDGEMAN,
876 Broadway, New-York City.

Very Choice Tobacco Seed. Connecticut Seed Leaf.

25 cents per ounce, $3 per pound. We will send by mail 1 ounce seed and Judd's "Tobacco Culture," for 50 cents.
4 ounces seed and Judd's "Tobacco Culture," for $1.

HARVEY B. LANE,
151 Nassau-St., New-York.

Connecticut Seed Leaf Tobacco Seed.

Be Sure and get the Best.

The Subscriber offers for sale a very clean lot of the above, raised expressly for him, by one of the most successful cultivators in the valley of the Connecticut. Packets containing ONE OUNCE, with FULL DIRECTIONS FOR CULTURE, will be mailed post-paid, to any address in the Union, upon receipt of 50 cents. Prices for larger quantities will be given upon application. Address B. K. BLISS,
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Dwarf Broom Corn Seed.

The best kind of Broom Corn that grows. I will send by mail 1 ounce packages to any address, on receipt of 10 cents.

Address D. REDFIELD, Scotchtown, Orange Co, N. Y.

Roses, Dahlias, Verbenas,

And all other Bedding Plants. We take pleasure in offering to our Friends and Patrons, our fine stock of strong and healthy Flowering Plants at the lowest rates. Egg, Tomato, Celery and other Garden Plants in their proper season. Victoria, and Linnæus Rhubarb. Hardy Grape Vines &c.

Also, Cut Flowers, Wreaths, Crosses, and Bouquets made to order. All plants carefully packed free of charge, and forwarded to any address.

JOHN H. SMITH, South Norwalk, Conn.

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THE GREAT SUBSTITUTE FOR COFFEE.

A supply of the genuine article just received by the Subscriber, and will be mailed post-paid to any address, upon receipt of the price affixed. Packets containing 1 ounce, 15 cents; 8 ounces, 60 cents; 1 pound $1.00.

Directions for culture accompany each package.

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GOODRICH'S SEEDLING POTATOES.—Cuzco, Rusty Coat, and Garnet Chili at $3 per bbl. Address E. WILLIAMS, Mont Clair, N. J.

No Iron Frame to Break, or Rust, and Spoil the Clothes.

53,818 sold in 1863.

It was pronounced superior to all others at the World's Fair at London, 1862. It took the FIRST PREMIUM at the great Fair of the AMERICAN INSTITUTE, in New-York City, 1863.

It took the FIRST PREMIUM at the
NEW-YORK STATE FAIR.. .....1863 and 1863.
VERMONT STATE FAIR..... .....1863.
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IOWA STATE FAIR.....1863.
ILLINOIS STATE FAIR.....1863.
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And at County Fairs without number.

SELF-ADJUSTING and ADJUSTABLE!

The only Wringer with the Patent

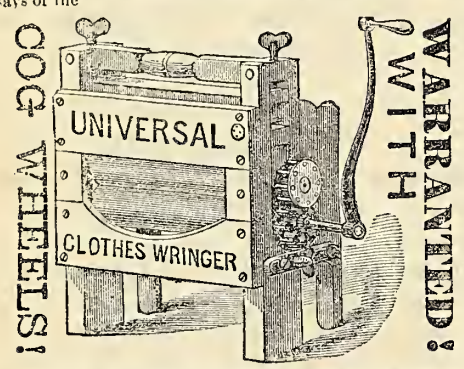
Cog Wheel Regulator,

which POSITIVELY prevents the rolls from

BREAKING, OR TWISTING ON THE SHAFT.

Without Cog-wheels, the whole strain of forcing the cloth through the Machine is put upon the lower roll causing three times as much strain upon the lower roll as when Cog-wheels with our Patent Regulator are used, besides the extra strain upon the cloth.

In reply to the question, "HOW LONG WILL IT LAST!" we can only say, "As long as a wash-tub, cooking-stove, or any other family utensil." See testimony of ORANGE JUDD, of the American Agriculturist, No. 41 Park Row, N. Y., who says of the



'We think the machine much more than PAYS FOR ITSELF EVERY YEAR in the saving of garments! We consider it important that the Wringer be fitted with Cogs, otherwise a mass of garments may clog the rollers, and the rollers upon the crank-shaft slip and tear the clothes, or the rubber break loose from the shaft. Our own is one of the first made, and it is as GOOD AS NEW after nearly FOUR YEARS' CONSTANT USE."

IT SAVES
TIME, LABOR, CLOTHES AND MONEY.

It is easily and firmly secured to the tub or washing-machine, and will fit tubs of any size or shape.

It is not only a PERFECT WRINGER, but the Cog-wheels give it a POWER which renders it a most

EXCELLENT WASHER,

pressing and separating as it does the DIRT with the WATER, from the clothes.

It will save its cost every six months in the saving of clothes. We have seven sizes, from $5.50 to $30. The ordinary family sizes are No. 1, $10, and No. 2, $7. These have

AND ARE WARRANTED

in every particular.

This means, especially, that after a few months' use, the lower roll

WILL NOT TWIST ON THE SHAFT,

and tear the clothing.

In our monthly sales of over 5,000, only from one to two dozen are without Cogs. In our retail sales we have not sold one in nearly two years! This shows which style is appreciated by the public. This is the only Wringer with the

PATENT COG-WHEEL REGULATOR,

Therefore, for cheapness and durability, buy only the

UNIVERSAL CLOTHES WRINGER.

On receipt of the price, from places where no one is selling, we will send the U. C. W., FREE OF EXPENSE. What we especially want is a good

CANVASSER

in every town. We offer liberal inducements, and guarantee the exclusive sale.

R. C. BROWNING,
347 Broadway, New-York.

MASON & HAMLIN'S
CABINET ORGANS

For

Families, Churches, Sunday Schools, &c.

COMBINING THE REQUISITES FOR

Sacred and Secular, Church and Parlor Music.

One to twelve stops, $85 to $500 each.

They are elegant as pieces of furniture; occupy little space; are not liable to get out of order or out of tune; are warranted for five years; will improve in tone by age, and are moderate in cost.

EVERY ONE IS WARRANTED FOR FIVE YEARS.

The Cabinet Organs are a very great improvement upon Melodeons, Harmoniums, and all other small Organs. They are recommended as excelling all other instruments of their class by a large majority of the most prominent organists in the country. See Illustrated Catalogues which are sent free to any address.

STYLES AND PRICES.

No. 10--Cabinet Organ.

This instrument is intended more particularly for Church requirements, and is very valuable for Organ practice. It contains twelve stops, drawing six complete sets of reeds, with the necessary couplers; two manuals, and an independent pedal of twenty-five keys, and is blown by a second person. Price—In substantial Oak or Waluut case.....**$500.**

No. 11--Cabinet Organ,

With eight stops, four complete sets of reeds, and two manuals—is blown by the performer, and contains the automatic swell. Intended for the parlor and drawing-room. Price—In elegant Rosewood case, highly finished.....**$450.**

No. 12--Cabinet Organ,

Differs from No. 11 in case only. For organists who are inexperienced in the use of pedals, this is our best church instrument. Being less complicated than the No. 10, and better adapted to transportation, we can confidently recommend it as very desirable for Churches, public halls, and lodge rooms. Also a desirable parlor instrumeut.
Price—In Oak or Walnut case.....**$380.**

No. 14--Cabinet Organ,

Contains six stops—three complete sets of reeds and one manual—a very excellent instrument for churches of moderate means, as it combines much of the power and capability of the larger instruments—at a much less cost.
Price—In Oak or Walnut case.....**$260.**

No. 23--Cabinet Organ,

With two sets of reeds of five octaves compass containing the Automatic Swell, knee stops and double bellows—in solid Black Walnut Case—paneled and ornamented with rich carvings—an elegant instrument for the drawing-room and Parlor.
Price.....**$165.**

No. 22--Cabinet Organ,

Differs from No. 23 in case only. This instrument is encased in elegant rosewood, highly polished, designed also for the parlor.
Price.....**$165.**

No. 21--Cabinet Organ,

Same music as in Nos. 22 and 23, in plain substantial Black Walnut or Oak case. This style is extremely popular—perhaps the most so of any that we make, its moderate price placing it within the reach of all, and serves well for either the parlor, vestry, school, or lodge room.
Price.....**$135.**

No. 20--Cabinet Organ,

Four Octaves, two sets of reeds, Automatic Swell, double bellows and knee stop. In elegant Rosewood case, highly polished.
Price.....**$135.**

No. 19--Cabinet Organ,

Same as No. 20, in a neat and substantial case of solid Black Walnut or Oak. A capital instrument for Sunday-schools of limited means, and next best to the No. 21 for private use.
Price.....**$110.**

No. 18--Cabinet Organ,

Five octaves, with one set of reeds, Automatic Swell, and double bellows. In elegant Rosewood case highly polished.
Price.....**$130.**

No. 17--Cabinet Organ,

Same as No. 18, in Walnut or Oak case. An available instrument for home use, though not so comprehensive as an instrument with two or more sets of reeds.
Price.....**$100.**

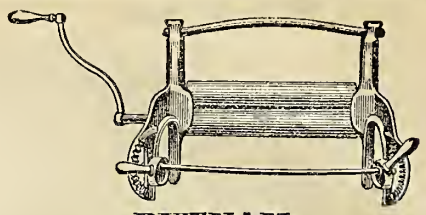
No. 16--Cabinet Organ,

Four octaves, with one set of reeds, Automatic Swell, and double bellows. In elegant Rosewood case.
Price.....**$110.**

No. 15--Cabinet Organ,

Same as No. 16, in Walnut or Oak.
Price.....**$85.**

MASON & HAMLIN, 274 Washington-St., Boston.
MASON BROTHERS, 7 Mercer-St., New-York.



PUTNAM
CLOTHES WRINGER.

The ONLY reliable Self-Adjusting Wringer.
No wood-work to swell or split.
No thumb-screws to get out of order,

WARRANTED WITH OR WITHOUT COG-WHEELS.

It took the FIRST PREMIUM at Fifty-seven State and County Fairs in 1863, and is, without an exception, the best Wringer ever made.

Instead of believing the statements of parties interested in the sale of other Wringers,

TRY IT, AND JUDGE FOR YOURSELF.

Test it THOROUGHLY with ANY and ALL others, and if not entirely satisfactory, return it.

It will wring any thing from a thread to a bed quilt without alteration.

Patented in the United States, England, Canada, and Australia. Agents wanted in every town.

Prices: No. 2, $5 50; No. 1, $6; No. A, $8.

Testimony of Messrs. Jno. W. Wheeler, of Cleveland, Ohio, and Jno. C. Lefferts, of New-York.

PUTNAM MFG. CO:

GENTLEMEN,—I know from practical experience that iron well galvanized with zinc will not oxidize or rust one particle. I can safely say, after several years experience in the manufacture of chain, for chain-pump and water-drawers, in which I have tested the affinity of iron and zinc, that if the process be conducted properly, it is a perfect weld of the two.

Nearly one year ago my family commenced using one of your Wringers. It now performs all of its functions as well as it did the first time it was used, and has become an indispensable article with us. I have closely observed several other kinds of clothes-wringers, the modus operandi being different, trying to produce the same results as the Putnam Wringer, but in my judgment they have failed. The Putnam Wringer is as near perfect as possible, and I can cheerfully recommend it to be the best in use.

Respectfully yours,
JOHN W. WHEELER.

Many years' experience in the galvanizing business enables me to indorse the above statement in all particulars.
JOHN C. LEFFERTS,
No. 100 Beekman-st.

New-York, January, 1864.

Manufactured and sold, wholesale and retail, by
THE PUTNAM MANUFACTURING CO.,
No. 13 Platt-st., New-York, and Cleveland, Ohio.
S. C. NORTHROP, Agent.

GREAT DISCOVERY!

USEFUL and VALUABLE DISCOVERY!

HILTON'S
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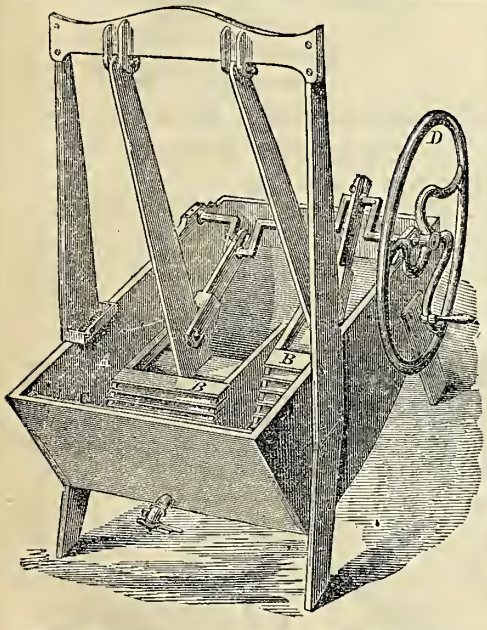

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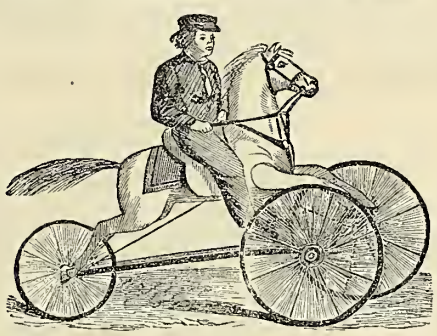

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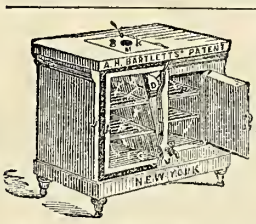

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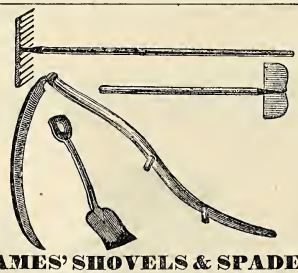

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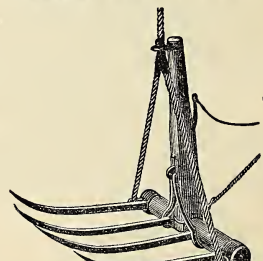

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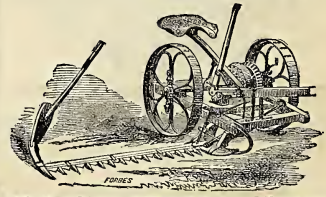

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Those who have used the above valuable fertilizer the past year, give it the preference over

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40 per cent. of Animal fibre and Blood.
40 per cent. of pure Ground Bones.
20 per cent. of Absorbents.

The absorbents are Charcoal and Gypsum.

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COE'S SUPERPHOSPHATE OF

LIME, PERUVIAN GUANO, PLASTER, etc.,

In quantities to suit purchasers. **PLOWS, HARROWS, CULTIVATORS,** and a large assortment of Agricultural and Horticultural Implements, Tools, &c.

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AND OTHERS.

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Water and Wine Problem.—

A correspondent sends to the *Agriculturist* the following, which is not new, but which may interest many who have not before seen it: "A servant drew off 1 gallon on each day, for 20 days, from a cask containing 10 gallons of wine, each time supplying the deficiency by the addition of 1 gallon of water. Afterwards to escape detection, he again draws off 20 gallons, 1 gallon at a time, supplying the deficiency each time by 1 gallon of wine. How much water and how much wine then remained in the cask?"

About the 100,000.

Last month we asked our readers to give us 10,000 more subscribers to complete the desired *One Hundred Thousand*. The responses are already numerous, and the tone of the letters very kind and cheering. At this date (March 14) the 200 to 300 names daily received, indicate that the list will be nearly, but not quite full at the end of March. May we once again solicit each reader who can, to favor us with another name or two this month, so that we can surely begin MAY with an *Agriculturist Family* of **100,000**? This number has been a sort of ambition with us for many years past. We were approaching toward it when the war broke out and cut off a large list, but we are now nearer the figure than ever before, and when it is reached we intend to suspend further special efforts, premiums, etc. Relying upon the good will of our readers to make up the small balance required, we print the 100,000 copies of this number, and will print and supply the three previous numbers of this volume to names now received, unless otherwise directed.

Volume **23** complete *shall* be the best investment of a dollar that any one can make. Several express their kind wishes, but say every family they know has the paper now. This is not the case in many other places.—The General Premiums are continued in another column, and unfinished Premium lists can be completed, or even new ones made up. People just now beginning their spring work, will feel the need of the hints and suggestions of such a paper. Aside from these, we solicit single names at $1—which are specially desirable, when paper and work cost so much as now. Will the kind reader favor us with *at least one name* of the few thousands only required now to complete the round number?

Special to Advertisers.

The rates are advanced a little (see page 121), but all things considered, they are still the lowest, or the *cheapest* any where to be found. The average charge in all the agricultural journals in the country is between 3 and 4 cents per line for each 1000 subscribers, and the lowest charge in any journal is considerably over one cent per line per 1000 circulation, while the rates in the *Agriculturist* are only about *three-fourths of one cent* per line for each 1000 papers printed. It is to be noted, also, that our advertisements are very select, that they are well printed, and that they are a long time before the readers. We repeat, then, that all things taken into account, our terms are the cheapest in the world, and of this fact we are assured by many of our oldest and largest customers. At present cost of paper we can not afford to print a supplement. When the space is full, we must leave out further favors, as we have largely done this month. We shall not be sorry if this advance in price materially lessens the space occupied, and leaves us more room for reading matter. It will also make those advertisments which are inserted all the more valuable. Please observe the *italicised* note with the terms on page 121. A large amount of space is already engaged for MAY, and those desiring room should make early application.

"Our Variety Store."—

In response to the urgent requests of some of the late coming advertisers, we added a supplement sheet last month. But it did not look well, and so, after the fair notice given, we shut down this month when the usual space was full. Several ask us to refer to their advertisements; we cheerfully direct the attention of our readers to the *whole*, for no better collection of business notices were ever thrown together. We have aimed to admit no advertiser whom we would not patronize if in want of any thing in his line. Of course there are things we might not want to buy or use, but we believe every one of our advertisers will do what he offers to do.—Read the advertisements all through; they tell what Is for sale, by whom, and generally at what price. The business pages are a good "Variety Store," set up in every household where the paper goes.—Many advertisers ask us to request persons ordering, or sending for catalogues, circulars, etc., to *always* state *where* they saw the advertisements.—The very liberal advertising enables us to keep subscription terms at the old rates even in these times, while almost all our cotemporaries have advanced, or announce higher prices.

Premiums for 1864.

Or Pay to Voluntary Agents who attend to Collecting and forwarding Clubs of Subscribers to the Agriculturist.

Table of Premiums and Terms.

Open to all—No Competition.

Names of Premium Articles.

	Price of Premium.	Names at $1 each.	Names at $1 25 cts. each.
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A—American Cyclopedia (Appleton's New).	$64 00	150	205
B—Best Family Clothes Wringer	$7 00	19	45
C—Nonpareil Washing Machine	$16 00	40	90
D—Sewing Machine, (Wheeler & Wilson)	$45 00	98	195
E—Sewing Machine, (Wilcox & Gibbs)	$45 00	98	195
F—Woodruff's Mercurial Barometer	$8 00	20	68
G—Woodruff's Mercurial Barometer	$12 00	30	80
H—The Aquarius.	$12 00	30	80
I—Five Octave Melodeon (best)	$90 00	190	350
J—Four Octave Melodeon (best)	$60 00	130	250
K—Seven back Volumes Agriculturist,	$8 68	28	64
L—Six do do do	$7 44	25	58
M—Five do do do	$6 20	22	49
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O—Three do do do	$3 72	16	33
P—Two do do do	$2 48	13	24
Q—One do do do	$1 24	..	13
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S—Osborn & Hodgkinson's Paints	$1 50	..	17
T—Premium Cylinder Plow No. 1	$10 00	35	90
U—Eagle Plow No. 20, with coulter	$10 00	35	90
V—Hay and Straw Cutter (best), No. 1	$9 50	33	85
W—Steel-tooth Cultivator (best)	$7 50	28	64
X—Family Lard and Wine Press, No. 2	$7 00	26	60
aa—Case of Drawing Instruments	$6 00	25	50

Packing, Delivering, Freight, &c.

No charge is made for packing or boxing any of the articles in this Premium List. The books, and the Premiums K, to S, inclusive, are DELIVERED *to any part of the United States and Territories, free of all charges. The other articles cost the recipient only the freight after leaving the manufactory of each.* ☞*Every article offered is new and of the very best manufacture.*

Full particulars in reference to the premium articles and the terms, are given in the January *Agriculturist*, page 25. We invite the continued efforts of our friends, in filling up premium clubs under way, and new premium lists may still be started. Many hundreds have already secured and received one or more of the above good articles.—* The book premiums are to be selected from our list on page 121—to the amount of 10 cents for each subscriber sent in clubs at 80 cents; or to the amount of 30 cents for each name at $1 a year. **But** no book premiums are given, where the club does not number at least 20 names. The books are *delivered free of cost*, by Mail or Express, to any part of the United States and Territories, and to the borders of the British Provinces. Many Farmers' Clubs have united their efforts, and by means of this premium, obtained a good Library.

N. B.—The varying cost of books and other articles, requires some changes in the above premium terms, from month to month. The *terms*, therefore, hold good only for the particular month in which they are published.

CLUBS can at any time be increased, by remitting for each addition the price paid by the original members, if the subscriptions all date at the same starting point. The back numbers will of course be sent to added names.

Any Number of the Agriculturist Wanted, from January, 1857, to the present time, can be had for 10 cents. We have stereotyped plates of the last seven volumes, and print back numbers as needed. Complete volumes (from 16 to 22) are sent post paid for $1.24 each, if unbound; or $2.00 each if sent bound. (At the office, or by express unpaid, $1 and $1.50 each.)

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A THOROUGH-GOING, RELIABLE, and PRACTICAL Journal, devoted to the different departments of SOIL CULTURE—such as growing FIELD CROPS; ORCHARD and GARDEN FRUITS; GARDEN VEGETABLES and FLOWERS; TREES, PLANTS, and FLOWERS for the LAWN or YARD; care of DOMESTIC ANIMALS, etc., and to HOUSEHOLD LABORS, with an interesting, instructive department for CHILDREN and YOUTH.

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ORANGE JUDD, 41 Park-Row, New York City.

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FOR THE

Farm, Garden, and Household.

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Published both in English and German.

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For Contents, Terms, etc., see page 160.

VOLUME XXIII—No. 5. NEW-YORK, MAY, 1864. NEW SERIES—No. 208.

Entered according to act of Congress in the year 1863, by ORANGE JUDD, in the Clerk's Office of the District Court of the United States for the Southern District of New-York.

☞ Other Journals are invited to copy desirable articles freely, *if* each article be credited to *American Agriculturist.*

American Agriculturist in German.

Each number of this Journal is published in both the English and German Languages. The two Editions are similar, and contain, as nearly as possible, the same Articles and Illustrations. The German Edition is furnished at the same rates as the English, singly or in clubs. A club may be part English, and part German.

Notes and Suggestions for the Month.

The Twins (Gemini) rule the month of May, according to the notions of ancient astronomers. The constellation is marked by two very bright stars, Castor and Pollux, named from twin brothers of renown in Greece, the latter of whom greatly excelled in boxing, as his brother did in horsemanship. Thus strength and skill are properly symbolized by the sign Gemini. Nowhere do they more need to be associated than in the cultivation of the soil. Until within a comparatively recent period, almost the only skill developed on the farm was that of mere handicraft, and he was counted a good farmer who could strike a straight and well finished furrow, swing the scythe deftly, and readily perform other mechanical operations in agricultural labor. But the fertilizing tide of improvement has quickened the growth of ideas in this sphere, as elsewhere, and the present style of the best farming gives full scope to the highest ability of mind, as well as skill of hands. The operations needing attention the present month are too numerous to allow of the full discussion which this topic invites, and we pass to the notice of more pressing practical matters.

Work for the Farm, Barn, and Stock Yard.

At this season, work accumulates faster than it can be done, as a general rule. A week of rain puts every thing back, and then the sun and wind dry the soil and push forward vegetation so that many a farmer gets nervous and half sick, worrying over unavoidable delays. Any man who has two or three teams, and as many as four or five hands to keep employed, may well spare himself much physical labor while he *plans* for the constant diligent employment of his men and teams. If every laborer knows exactly what is expected of him, that an account of his time is kept, and that his wasted hours and minutes count to his discredit, if not to the decrease of his wages, he will be very likely to be a better and more faithful servant. The amount of labor accomplished under a systematic plan, (according to which the work not only of each day but of each man and team is laid out in general a week ahead, as we know to be the case on some farms,) is much greater than when the farmer plans his day's work during the evening beforehand, or perhaps defers it until after sunrise in the morning.

Barn-yards ought to be so drained that all the wash may be saved, not by leading it out upon some piece of grass, but so that the liquid may be used for wetting the manure heap, or for watering the vegetables of the garden, or for distribution by means of some sort of watering cask, over grass, grain, or root crops in the field. Strong fences, clean sheds, and tidy tool houses ought to surround the barn-yard, and every preparation should be made for making and saving manure in the very best condition for use.

Barometer.—This instrument closely watched, taken in connection with accurate observations of the winds, clouds, etc., is a great help to the farmer in prognosticating changes of weather, and may be relied upon independently of other "signs" to give notice of sudden and violent showers coming unexpectedly on pleasant days.

Beans.—See article on field beans on page 138.

Bees.—Bee-keepers of course read the excellent hints given under the head "Apiary" (page 132 in this number) and others will usually find their perusal both interesting and profitable.

Bones should never be wasted on a farm or by any one having even a square-rod garden-spot. Throw them into heaps with a mixture of horse manure, and suffer the whole mass to ferment.

Broom Corn.—Plant the dwarf variety if it can be procured. See the article on page 138.

Buildings.—Decaying matter in contact with the timbers or boarding of buildings causes decay to commence, which continues to progress after the first cause has been mainly removed.

Cabbages.—Sow for main crop, Flat Dutch, Drumhead, or Stone Mason, in good garden soil. The crop pays at 1½ cents per head as feed for stock; 2 to 5 cents is the market price. An excellent crop for reclaimed swamp land, newly cleared wood land, or soil rich in vegetable mold.

Carrots.—Sow early, in well prepared soil. Look at "Notes" in former numbers, and page 108 last number for estimate of value and culture.

Cattle, Cows, Calves, etc.—Give the pasture a good start before turning stock upon it. The grass makes roots and strengthens itself to endure the drouths of summer at this time, and a week's feed taken too soon now, is paid for by short pasturage, and likely enough many barren spots before September. Keep up the flow of milk by feeding roots if possible, perhaps rye as soon as a good swath can be mown, cut-feed, straw, or stalks, sprinkled with corn meal or oil cake, or in some other way. "Spare the calves." The high prices of butter, cheese, milk, etc., will tempt many farmers to "deacon" their calves, to the detriment of the herd and to their own sorrow two years hence. Get them as soon as possible accustomed to do without milk, or take only skimmed milk. Calves should have access to a variety of feed; sweet hay, clover, oat and pea straw, are a good variety, and a few oats will be relished, before grass starts.

Chimneys.—Burn them out on some rainy day.

Clover.—Good success has been met with where clover has been sown after the ground is thoroughly settled and warm. More seeds are said to germinate and a better set to be obtained.

Cotton.—In congenial latitudes, sow as soon as the ground can be put in order. At the North, sow in protected beds, or under gauze frames; transplant like tobacco when there is no longer danger of frost. If sowed early in May, it may be transplanted in 4 or 5 weeks. Soak the seed in brine and roll in ashes and plaster. Occasional waterings with liquid manure are desirable at the North, to force a rapid growth.

Corn.—See articles on pages 137, 138 and 147. Some of the improved cultivators and horse-hoes will save nearly all the hand labor.

Dairy.—See article on "Soiling Dairy Cows," page 141. Some good business men from each dairy neighborhood should this season look into the operation of: 1st. The Associated Cheese Dairies, and Cheese Factories.—2d. Borden's plan of condensing milk.—3d. Some plan of association for butter-making. Keep good cows.

Draining.—Never lose sight of the advantages which thorough draining brings with it; and plan all changes and culture with a view to a systematic withdrawal of the water from the subsoil at the earliest opportunity.

Flax.—See article in April *Agriculturist,* page 110. It is often sown to advantage any time during the present month, but better earlier.

Fences.—During this month prepare the ground for line fences, and transplant deciduous hedge plants, such as the Osage Orange, the Thorn Locust, the Buckthorn and native thorns.

Grain Fields, if backward, may be encouraged by a good dusting with plaster, and by application of Chili saltpeter, or sulphate of ammonia. See note in another place on liquid manure.

Hedge Rows and Fence Corners.—If you disturb

these nurseries of weeds at this season, your stock of certain vile sorts may run out. But if all brush and weeds be cut up clean, the ground plowed and planted with potatoes, with no manure but lime plowed in and, perhaps, ashes in the hill, and if it be kept well tilled until the vines cover the ground, the weeds will be very likely to disappear.

Hemp.—Sow 1 bushel to 5 pecks of heavy, bright, last year's seed to the acre, on good wheat soil; harrow in and roll. It is better to sow in drills if the soil be smooth, particularly if you are belated. For seed, hemp is best sown in hills about 3½ to 4 feet apart. About a dozen plants should start in each hill, which thin to 3 or 4 thrifty plants, and after blossoming, to 1 or 2 good female plants.

Horses.—Do not let young mares or spirited ones in foal and near their time run together, lest in play they over-exert themselves. Give generous fare, but not corn or corn meal alone; steamed oats, bran, or shorts wet up are preferable. When the foal is dropped, a bran mash may be given, and a feed of oats and good hay ad libitum, unless grass is abundant. If the mare be at pasture, either provide protected shelter, or bring her to the stable, when cold storms threaten. The weather of the last of the month is usually favorable for castration of yearlings, or two-year-olds—an operation, however, unnecessary in some cases, which we deprecate for farm horses and for those required for army use. Much of the courage, endurance, and power of the horse is lost in the gelding.

Irrigation.—Its advantages are second only to those of draining, and in combination with it its effects are astonishing. Study to secure means for establishing a partial, if not thorough system.

Lucerne.—Sow in drills on good soil (old corn ground), underdrained, or with an open sub-soil. Weeds must not be allowed to smother or stint the growth of the young plants the first year. On rich land the cropof hay is immense,—4 to 6 tons from three or four cuttings and nearly equal to clover hay.

Manure.—Turn every thing corruptible to account. Lead road washings upon land adjoining, and provide for its extensive distribution. *Liquid Manure.*—The valuable of soluble manure dissolved in much water and applied by irrigation or sprinkling to the grass crop is very great. Set a tank or cement cistern in the barn-yard which will catch the wash of the yard and receive other supplies of water if needed. Provide pump and sprinkling cart for distributing it. Bring to the required strength by pumping it over and allowing it to leach through a manure heap, or by diluting with water. Distribute freely over grass in any weather.

Mowings.—The grass crop is worth in the aggregate much more than any other staple product of the United States. Use every means to increase it. Light dressings of salt, ashes, plaster, bone dust, refuse saltpeter, liquid manure, etc., often add greatly to the crop.

Oats.—It is seldom desirable to sow oats after the first week in May. If they must be sown late, sow two bushels of peas to the acre with them, and cut and cure the whole for fodder if the oats fill poorly.

Onions.—See notes in April and in Onion book.

Peas.—See the article on page 107, in last number.

Parsnips.—Sow for field culture in rich, deep soil, in drills 20 inches apart, and drop the seeds 2 inches apart in the drills, to be subsequently thinned to 2 plants to the running foot. A very valuable feed for milch cows coming in in spring, before grass starts, and during winter. They require no storage, as they keep well in the soil, and can be dug for use whenever the frost is out of the ground.

Plowing.—If possible, deepen the soil by running the plow an inch deeper than before, and subsoil when practicable. Thus you save your crops from the worst effects of drought.

Poultry.—We might fill our journal every month with testimony showing that a good poultry house and great care of the chickens pays better than almost any other expenditure of labor on the farm.

Pumpkins.—The corn field is not the only place on the farm where pumpkins will grow. Planted in well prepared holes, 3 feet in diameter, on sunny, stony banks, or in spots where the grass cannot be cut, and cultivation of other crops is difficult, much good fruit may be secured. They do well by themselves in hills 5 to 6 feet apart each way.

Root Crop.—See note on parsnips. Mangel Wurtzel and Sugar Beet seed should be well soaked, rolled in plaster to dry them, and sowed with a good drill, in rows 2 feet apart. Have the seeds dropped thickly, and afterward thin mangel wurzels to 8 inches, and sugar beets to 6 inches apart, at least. The sowing of Rutabagas may well be delayed until the first to the middle of June.

Sheep.—Give early lambs generous diet, so as to have them ready for the butcher by green pea time. Where sheep will not do serious damage to the grass by feeding it off close too early, they will gnaw down the bushes very thoroughly, and thrive upon the dirt. Shear without washing, for the various reasons enumerated on page 139.

Soiling.—See article in this number on page 141.

Sorghum.—Plant in hills or drills 3½ feet apart, the latter preferable usually, the plants being thinned to 8 to 10 inches apart, or to 5 in a hill. Soak the seed nearly to sprouting, roll in plaster, and plant a little earlier than corn. It bears transplanting and may therefore be sown in protected beds and transplanted. Soil and culture same as field corn.

Swine.—Keep as many as can be quartered comfortably in a pen under cover, to work over sods, muck or peat, weeds, etc., supplied every few days; encourage them to work diligently by dropping handfuls of corn into holes made by a crow bar. There will be little or no corn wasted. Working hogs should not be "rung" or "tamed" till fatting.

Tobacco.—Water the seed bed with liquid manure, pull weeds that show themselves, prepare soil by plowing in all the stable manure, home-made poudrette, fish compost, etc., you can afford, and make it *rich* in some way. Bone dust, ashes, and gypsum, in pretty liberal quantities, will be found beneficial. Harrow the ground if weeds start, so as to kill them and induce the starting of others before the plants are set out—next month.

Tools.—Numerous valuable improvements in farm implements have been brought out recently. To be able to designate all the best, one would have to devote himself entirely to their study, or be liable to do great injustice. Farmers must, to a considerable extent, investigate and decide for themselves.

Orchard and Nursery.

At the time of making up the Calendar it looks as if much of the work of planting would be deferred until May. The taking up and planting of trees can be continued until the buds have started into growth. Of course nursery stock which is to be packed and sent to any great distance, should be as dormant as possible. In well regulated nurseries, enough to meet all probable demands is taken up and heeled in, and thus kept back. Trees which have been a long time in transportation are apt to become either dried, or heated and caused to start. If planted out without any previous preparation, a good share will be lost, while with a little care all may be saved. In case of shriveled trees, remove them from the packing, open a trench and bury the whole, roots, tops, and all, and leave them several days or a week. When taken out they will be found plump and as good as new. When from heating, the buds have started into growth, they will sometimes put out sickly shoots several inches long; the only remedy is severe cutting back. Reduce the tree to a mere stake if need be, to insure a new and vigorous growth. The hints in March and April Calendars may be read again with profit, as there are many which are applicable now especially at the North.

Budded Stocks.—If the buds are plump and sound, cut back the stock to within three inches of the bud. This leaves a convenient support for tying the new shoot to, after it starts into growth.

Cuttings of currants and other shrubs and of quince and grape are to be put out in well worked, rich soil, taking care to press the earth firmly around the base of the cuttings.

Evergreens.—These are best transplanted as they are making their growth. In all cases, great care should be taken that the roots do not become dry, for unlike other trees, they will never recover. When to be set out near the place from which they are taken, secure a good ball of earth, and if to be sent to a distance, put the roots *immediately* into damp moss. Hemlocks are usually more difficult to transplant than others. Wait until the young growth has made at least half an inch. Give vegetable mould, such as earth from the woods, or muck that has been weathered, to newly planted trees. The established ones will thank you for a dressing of well decomposed manure. A few large stones placed over the roots are better than stakes.

Grafting.—Full directions were given in March. If the cions were cut early and well preserved, the operation can be done this month as well as at any other time. When grafting is done late, care must be taken, in sawing off limbs, not to strip the bark.

Heading Back.—This should be done to those limbs which are inclined to outgrow their fellows. Dwarf pears are kept dwarf by cutting back the strong growth at least one-half. Peach trees should have one-third the previous year's growth removed.

Insects.—The eggs deposited last year will soon produce their brood. Begin offensive operations at once, or it will soon be necessary to act on the defensive. Wipe out nests as soon as they are found, with a strong solution of potash upon a swab. As soon as millers or moths of any kind appear, set common kerosene or other lamps in pans of water about the orchard. The insects will dash against the chimnies and fall into the water. If the trunks of the trees have not already been washed with a strong solution of soft soap, do it now, on a damp day. Probe out the borers.

Layering.—This may be done now with last year's shoots of quince, ornamental shrubs, and all plants multiplied in this way.—See directions under Fruit Garden for treatment of grape vines.

Mulching.—It will benefit all newly planted trees to give them a mulch of some kind to protect their roots during the dry time which frequently occurs in spring. Litter of any kind, tan, sawdust, or chips from the wood-yard, will answer. Give a covering over the surface as far as the roots extend.

Orchards.—In properly managed orchards, there will be no work for anything but the knife. If large limbs must be taken off, leave them until summer. In cultivating orchards, especially young ones, do it for the benefit of the trees rather than for profit from the crop. Hoed crops of a character which will not exhaust the soil, may be beneficial rather than otherwise. Keep them however at a good distance from the roots of the trees.

Peaches and Apricots.—These and other stone fruits, as Almonds, Nectarines, and Cherries may still be set out, if they have not started too much.

Peach Trees.—Apply ashes and attend to borers, as directed last month.

Pears.—Plant dwarfs in the garden and standards for orchard culture. Head back last year's growth and allow no fruit to grow during the first season.

Plow.—Use the plow and cultivator between nursery rows, and keep ahead of weeds. Pad the ends of the whiffletrees to avoid injuring the trees. Allow no careless hand to plow in orchard or nursery.

Seed-beds.—Seeds of trees and shrubs should be sown as soon as the ground is ready. Most seedlings of forest trees, and those of evergreens especially, need shading during their early growth, as recommended in February, on page 50.

Stocks.—Those grafted during the winter are to be put out, with a dibble, or by opening a trench.

Kitchen Garden.

Work presses here and the question is, what to do first. Rather large experience has shown us that nothing is gained by hurrying the work in advance of the season. It takes a certain length of time for the ground to get into a suitable condition. It must drain, settle, and warm, before most seeds can be sown. Any previous preparations, such as draining, trenching, etc., which will promote these changes, will now be appreciated. Many of the hints given in the April Calendar will be timely now. It should be borne in mind that these remarks are always written on a sort of sliding scale, with the previous and following month in view,

and this is the way in which they should be read,—not as positive directions, but as suggestions applicable, as the almanacs say, "*about* these times."

Artichoke.—By this we mean not the sunflower like plant which produces a tuber, but one which produces a great, thistle-like, eatable head. It is one of the refinements of horticulture, not to be commended except to the curious in such matters. New beds may be started from the seed and by offsets from old plants. Fork manure into established beds.

Asparagus.—Cut as soon as the shoots appear, and keep doing so as long as it is considered advisable to continue the cutting. In cutting, be careful not to injure the starting buds. The English gardeners use a knife with a saw-like edge, as they consider this leaves a wound less likely to bleed than a smooth cut. If for market, do not send it loose, but put it in neat bunches, 4 to 6 inches in diameter, according to the season, and cut the lower ends square. Tie with two strings, one near the top, the other near the bottom, with bass matting or soft twine. Send this, and indeed every other vegetable, to market washed perfectly clean.

Beans.—If the early plantings have been cut off by frost, renew them. Put out the poles for runners before planting the seed. As soon as frosts are over, set out Limas which have been started in sods or pots. It is well known that these or any other beans can be readily transplanted to fill deficiencies. We have seen Lima beans successfully grown on a trellis of lath, five feet high, cutting off all the runners which came above the trellis and keeping the plant dwarf. The experiment is worth trying by those who have no poles.

Beets. The early sorts should be weeded and thinned as soon as large enough to work among. From the nature of the beet seed two or three plants will grow very close together. In thinning, this should be looked out for and only one be allowed to grow to the foot. When the plants get larger the thinnings make good greens.

Borecole, or Kale.—This is seldom wanted early. Treat for early or late the same as cabbages.

Brocoli; Brussels Sprouts.—Treat as cauliflower.

Cabbages.—The early sorts will usually be ready to transplant this month. See directions given last month. Sow both early and late sorts in the open ground. Commence hoeing soon after the plants are put out. In setting plants, reject those which have lost their centre bud or growing point. We would again call attention to the Winningstadt as a superior medium early and late variety. There is no other sort suited better for light soil.

Capsicums or Peppers.—Do not set out from the hot-bed until the weather is thoroughly settled; they are very sensitive to cold. Seed for a late crop may still be sown in a cold-frame or hot-bed.

Cardoon is to be treated the same as artichoke.

Carrots.—If the early sowing was not made last month, it should be made at once. As soon as the plants can be seen, put a push or missionary hoe, or other weeder, through the rows. Thin out as early as the plants can be handled, to from four to six inches in the rows. Keep weeding.

Cauliflower.—See directions on page 116, last month. Set out in rich ground as soon as hard frosts are over. Hoe often. When growing give liquid manure. The best crop we ever saw was on a patch from which hot-beds had been removed.

Celery.—Follow the directions given last month.

Cold-Frames.—Remove sash entirely during pleasant days. Give water with the chill off, as needed.

Compost Heaps.—It is not too early to think of accumulating a stock of compost for use next year. A good gardener always looks ahead. Have a dumping place, convenient of access, and out of sight if possible, where refuse animal and vegetable matter of all kinds can be deposited. If weeds are hoed, as they should be before they make seeds, they can be turned to good account here. Begin a heap now. There will be the litter from the asparagus and rhubarb beds, the spoiled cabbages, potatoes and roots which have not kept well, and a great variety of other matter to be added at once.

Corn.—Plant as soon as the soil is warm. A few hills may be started on sods in the hot-bed and set out near the end of the month. See notes on varieties in following pages.

Cress.—Sow for succession; give ashes to young plants if troubled with insects.

Cucumbers.—Set out from the hot-bed when danger of frost is over. It is well then to cover the plants at night. A frame of boards covered with muslin, or four bricks placed around the plants with a pane of glass to cover them, will keep the ground warm during the night. A slight covering, even a newspaper thrown over the hill and kept by means of sticks from contact with the plant, will keep off a smart frost.

Egg Plant.—Do not transplant from hot-beds until the soil gets well warmed. If they grow too large, put them in small pots, or prick out under a cold-frame. When set out, give good, warm soil and thorough culture. Liquid manure, applied when the earth is moist, will help them.

Garlic.—Put out sets, or "cloves," as they are called, six inches apart, in about one foot rows.

Herbs.—Sow in open ground if warm, or under glass. See note on page 111, April *Agriculturist.*

Hot-Beds—The plants will now be quite large. Set out if the season permits, or pot or prick out in a cold-frame. Overgrown plants will receive a severe check in transplanting, which it is best to avoid by removing them either to pots or another bed before they get too large. All the plants must be thinned, weeded, and have the soil stirred between the rows. Keep the sashes off during every warm day, but replace them before the soil cools.

Insects.—In many places a constant fight must be kept up. All plants of the cabbage family are apt to be attacked while young. A dusting of ashes, ashes and plaster, or air-slacked lime, given while the dew is on, will keep off most early pests. Entrap moths as directed under Orchard and Nursery.

Kohl-rabi.—Sow in open ground for main crop. The culture is every way the same as for cabbages.

Leeks.—See *Agriculturist* for April, on page 109.

Lettuce.—Transplant from hot-bed and cold-frame. Thin that sown in open ground, and sow for succession. Lettuce intended to head cannot be hoed too often. Liquid manure will give large results.

Liquid Manure.—If preparations are not made for this, do it at once. A barrel or cask will do. It may be sunk in the ground near a supply of water and kept full of an infusion of hen, sheep, or cow manure. Some prefer to set up a leach, but the liquid first obtained is very strong and needs to be diluted.

Martynia.—These most excellent pickles may be grown, as shown on page 113, last month.

Melons.—See article on page 146. Treat the early planted melons as directed for cucumbers.

Mushrooms.—Beds may be started at any time. An article on their culture is given on page 145.

Mustard.— Sow at intervals for a succession.

Nasturtiums, or Indian Cress.—These are not only useful as furnishing their unripe fruit for pickles, but showy and serviceable to cover unsightly fences.

Okra.—Sow when the ground is warm, as directed on page 116, last month.

Onions.—If not already done, put in seeds,—tops, sets, and potato onions, according to April Calendar.

Parsley.—The seed is a long while in germinating and should have a good soaking in warm water before sowing. Some gardeners grow it as edgings to beds, where it makes a very neat appearance.

Parsnips.—Sow *fresh* seed any time this month.

Peas.—Repeat sowings of early sorts for succession and put in late sorts, such as Champion of England, and the Marrowfats. Put brush to those needing it, and keep the crop well hoed, drawing earth towards the plants. If a pea vine once falls over, it seldom recovers its upright position.

Potatoes.—Still plant early sorts; hoe as soon as up.

Radishes.—Continue to sow in quick, warm soil. Dust with ashes if attacked by insects. If many worms are found at the roots, destroy the crop at once, as it is useless to look for good results.

Rhubarb.—Never cut, but pull with a sidewise twist. Newly established plants should now give a full supply. Allow newly planted all their leaves.

Salsify.—Sow, if not already done, and cultivate thin and weed the same as carrots. Put the manure down deep to insure a good crop.

Sea Kale.—See article on page 116, April number.

Seeds.—Roots and bulbs intended for seed should be put out early, in good soil, always keeping the different varieties of the same kind well apart.

Spinach.—Sow for succession. Hoe, weed, and thin that which is already up, as directed last month.

Squashes.—Treat early sorts as directed for cucumbers. The fall and winter kinds should have a well manured soil, as they throw out roots at the joints. Give plenty of plaster or air slacked lime while young, and when older examine for squash bugs.

Sweet Potatoes.—Nothing is gained by putting them out too early. When grown in a small way it is cheapest to buy plants. Directions for starting them are given in April Calendar.

Tomatoes.—Transplant from hot-bed or cold-frame as soon as safe. They cannot stand the least frost. If plants in the frame get too large before they can be planted out, pot or prick out as directed last month. Sow seed for late crop in open ground. For early fruit rather poor soil, with sunny exposure.

Turnips.—Sow early sorts. If worms attack the roots destroy the crop and use the ground for something else. It is useless to try to grow early turnips when worms make their appearance.

Watermelons.—Read article on page 146. Mountain Sprout is earliest, Ice Cream best, and Black Spanish is fine where the season is long enough.

Weeds.—A good garden should not show a weed. A large garden should for the most part be planted in rows and cultivated by horse power. Keep something in motion which will stir the soil, be it cultivator, hoe, or any of the weeding machines. Plenty of manure and constant working are the two essentials after good seed has been sown.

Winter Cherry or Physalis.—Treat like tomatoes.

Fruit Garden.

The planting should have been done last month, but if it has been delayed from any cause, the work should be vigorously prosecuted at once.

Blackberries.—If planted now, cut back to within six inches of root. Tie up to trellises or stakes.

Currants.—Transplant, if possible, before growth starts. Set out cuttings, if not already done, as directed last month. Keep the soil around established bushes loose, and entirely free from weeds.

Dwarf Trees.—These of all kinds need heading back to keep them dwarf and compact. Set them where the roots can have all the ground.

Grapes.—Secure to the trellis with soft twine, lead wire, or some secure fastening. If buds have started, handle with great care. As the new growth pushes, keep it tied up with bass or other soft string. Rye straw makes a cheap and serviceable material for this purpose. It should be wetted when used. Put out cuttings of those kinds which can be propagated in this way. Layering is a surer mode of propagation. Preparations can be commenced as soon as the buds start. Take a strong shoot, which should have been cut back to six feet, in February or before, open a trench six inches deep and about as wide, and lay the vine in it, using pegs or other means to keep it in a horizontal position at the bottom of the trench. When the shoots have made three or four inches of growth, select those to be grown, leaving one to about a foot, and choose the strongest. Put strong stakes to each shoot, and when they have grown about a foot, fill soil into the trench enough to cover the layered vine about an inch. The trench is to have earth added about an inch at a time, at intervals of a week or so, until filled. See preceding numbers for varieties and directions for planting.

Raspberries.—Uncover the canes and tie to stakes, as directed last month. Give manure if not done.

Strawberries.—The bed should have been set out last month, but it may be done now. Set plants as directed in last month's Calendar. In hill culture the runners should be kept down. If the beds have been mulched with straw for the winter and it has been left on, according to the practice of some of our best cultivators, all that has to be done is to pull up the weeds which make their appearance through it. If there is no mulch, keep

the plants well hoed. A correspondent advises the use of strawberry plants as edging to beds. Where there is sufficient labor for this refinement, it may be well to give a neat appearance to the fruit garden. Longworth's Prolific has been named as a good variety for this purpose. It has strong foliage.

Weeds.—The fruit garden should be kept clear of these. The hoe and cultivator necessary to exterminate them will benefit the plants, whether shrubs or trees.

Flower Garden and Lawn.

All re-arranging and laying out and transplanting of trees and shrubs is to be hurried as rapidly as possible. It is well not to bring tender plants too early from the green house, as they do much better if left until after the ground is well warmed.

Annuals.—Those started under glass may be put out. Seeds of all, except the very tender sorts, may be sown in the open border.

Bulbs.—The bloom of hyacinths or tulips can be prolonged by shading from hot sun by cloth awning.

Box Edging.—Clip the old and set new. Propagate according to hints on page 148.

Bedding Plants—Petunias, Verbenas, etc., may be put out; Heliotropes need quite warm weather.

Carnations.—Sow seed for a new stock. Set out from green-house or frame. Tie the flower stalks up to stakes to give support and neat appearance.

Climbers.—See page 146. Seeds of the Cypress Vine and some newer Morning-glories germinate better if soaked 12 hours in warm water, or having water poured over as hot as the hand can bear.

Dahlias.—Those already started should have the shoots taken off and potted as soon as they are large enough. If left till the present time, set the roots in a gentle hot-bed and cover with earth, or in a warm border, where they can be covered at night.

Dicentra spectabilis.—This (often incorrectly called Diclytra) may be propagated by division of the roots. It is one of the finest of our perenuials.

Evergreens.—Plant upon the lawn and as screens and hedges, as in hints given under Orchard and Nursery. Broad-leaved evergreens should not be forgotten. Holly, Rhododendrons, Laurel, and the little Daphne Cneorum are among useful ones.

Frames and Pits.—If the plants are not removed, they should now be left open every pleasant day.

Fuchsias.—Set in the border after the weather becomes warm. Give a partially shaded place, and keep them well tied up to stakes.

Geraniums.—Set out the bedding sorts. If well hardened, they will not mind the cool nights.

Gladiolus.—These bulbs make a fine show in the garden. Fine sorts may be had at moderate rates. Set the bulbs in clumps of half a dozen in good soil, with a sunny exposure. Plant 10 to 12 inches apart, and 2 inches deep.

Grass Edgings.—Clip with grass-hook or sickle as soon as large enough to cut, and trim the margins.

Gravel Walks.—Keep in order with rake and roller.

Hedges.—Complete setting the new and clip the old. Fill weak places by weaving in the branches.

Honeysuckles and other woody climbers, plant early. Put up and tie securely to trellises those removed for winter protection. Layer for increase.

Labels and Stakes.—Have a plenty at hand to mark every thing sown. Do not trust to memory. Dahlia stakes should be set out with the plant.

Lantanas.—These do best in a rather sandy soil, with plenty of sun. They grow rapidly and may be pegged down as bedding plants, or trained to bush form, to be potted in autumn and kept over winter.

Lawns.—Mow as soon as the grass will take the scythe. A good mower with a lawn scythe will make good work. There are hand and horse lawn mowers, but as the manufacturers do not announce themselves, we know not where they are to be had.

Mulch.—All newly planted trees will be benefited by covering the earth around them with any thing which will prevent evaporation. Stable litter, straw, haulm of beans and peas, chips, tan-bark, or saw-dust may be used. Even the early mowings of the lawn may be profitably used in this manner.

Lilies.—The different species of these, even when planted in spring, make a fine show the same season. The different varieties of the Japan Lily are all beautiful; the bulbs are all perfectly hardy, and the flowers of all are finer than those of any other kinds. They should be in every garden, and will flourish in any good soil. The old White should not be forgotten, and our native sorts are improved by cultivation and are very showy.

Mignonette.—This is grown for its perfume, as the flowers are not showy. A bed of this and Candytuft make a good mixture, as one furnishes the fragrance while the other supplies the show.

Petunias.—These are among the most popular bedding plants. Good results may be had from seeds sown early, but the finer sorts can only be procured by cuttings in the green-house. The double varieties, if used as bedding plants, need much care, as their blooms are easily broken off.

Roses.—These may still be planted. Do not forget the old fashioned June roses. The now popular Remontants and Bourbons have nearly driven these old favorites from the gardens. Turn the Teas from the pots into the open border. Keep climbers tied up. Remove layers made last season.

Trees and Shrubs.—Continue to plant if the work is not finished, and protect by tieing to stakes.

Tropæolums.—Dwarfs and climbers may be sown.

Tuberoses.—Set the bulbs as directed on page 147.

Verbenas.—Plant in masses. If any have run up to flower, cut them back severely before planting.

Weeds.—If there are any in the borders the garden is too large. Not a weed should be seen.

Green and Hot-Houses.

The time for bringing out the plants must be governed by the forwardness of the season. Roses and other half hardy plants intended for the borders are the first to be removed. Those which are to remain in their pots should be under the shelter of a fence or evergreen screen, to keep them from injury by winds. Camellias are best placed under a frame of lattice work, which will give them a partial shade. The hot-house will need but little fire heat, and both this and the green-house require abundant ventilation. As soon as a house is cleared of plants, repairs and cleansing may be done.

Cactuses.—Make cuttings and allow them to dry for a few weeks before putting them into the soil.

Camellias.—Syringe freely while growing, and when put out of doors, shelter as noticed above.

Cuttings.—Preparations may be made for increasing the stock. Keep them in a close atmosphere and in partial shade until rooted.

Fuchsias.—The hardy sorts are to be set in the borders. No plant is better to ornament the verandah or balcony than this in pots. Make cuttings of the new wood just as it gets firm.

Insects.—These will allow no relaxation of vigilance. Fumigate and use the syringe freely.

Japan Lilies.—Those in pots should have their flower-stems tied up as soon as they need it.

Oranges and Lemons.—Take out of doors. Clear the stems of scale.

Pelargoniums.—Put in cuttings for plants for winter.

Water.—The plants remaining in the house must not be neglected. Apply water at evening.

Cold Grapery.

The vines may be forced or retarded, according to the season and climate. Where late frosts occur, keep the house cool, as it is not desirable to start the growth until it can be pushed without interruption. Keep the air moist by syringing over the vines every mild evening, and sprinkling the floor every morning. The manure placed on the outside borders last fall is to be forked in or, if it was neglected, fork over the bed and give a dressing of manure. When danger of frosts is over, the temperature of the house may be gradually increased until it reaches 85° at mid-day, opening only the upper ventilators. When the shoots have sufficiently advanced to show their character, select the best for fruiting and for next year's wood, rubbing out all the others. The shoots are very tender and great care must be exercised in handling the vine.

Apiary in May.

Prepared by M. Quinby—By Request.

The secretion of honey by flowers is much more abundant at some times than at others, owing, probably, to some peculiar state of the atmosphere. When fruit blossoms yield a rich harvest, bees that are in *extra condition*—will not unfrequently swarm about the time these are gone, and the *general* swarming will begin at the commencement of clover blossoms, the Italians taking the lead. If fruit blossoms secrete no honey, or but little, there will be few swarms until clover has been out some weeks. During *pleasant* weather there is little danger of any starving in this month, but every day of cold or wet weather all light colonies should be fed....The moth-worm may be found in the morning on the floor of the hive, until it is about full of bees.....It has been ascertained that the young queen will sometimes meet a drone that belongs to a hive three miles away. When Italians cannot be isolated at that distance, to secure their purity it is better to change the whole stock in the yard the first season, and when practicable, get all bee-keeping neighbors to do the same. It is essential to provide a predominant number of drones. Nature has providentially assisted us; the peculiar structure of the queen-bee making the drone of an Italian queen pure, while her workers may be hybrids. Begin with a queen absolutely pure. Rear the young queens, and pay no regard to what drones they meet; introduce one to each hive—the more the better. All the drones from these being right, the work is half accomplished. The next season rear another set of queens for each hive, from the original pure one, and there being none other but pure drones in the yard, the chances for entire purity are greatly multiplied. The only danger of mixing is from neighbors, and if any colony produces hybrids at any time, the queen should be removed and another substituted.... Queens are usually reared in small boxes or miniature hives, by shutting up a few workers and giving them food, etc. The details have already been given in the *Agriculturist*. With several good queens to begin with, each colony can be made to raise its own queen. The first operation is to take out the comb and find and remove the native queen. In one week look over the combs and cut out all queen cells that have been made; then immediately introduce a queen. After she has been there a few days and filled the cells with eggs, she may be transferred to another hive that has been made ready by the same process. After she is removed from each colony the bees convert some of her brood into queens. If you care to take the trouble, you can carefully cut out the superuumerary queen cells, and introduce them instead of a queen into some of the hives. This transferring the queen from one hive to another is attended with a little more risk than when she is left quietly in her own home. Some colonies will transgress all general rules. It would be prudent to have one or two extra queens for this method, as an accident might stop all proceedings at the most important season. A queen can be introduced with but little trouble by warming some honey in a large spoon and smearing her thoroughly, then dropping her into the midst of the bees, from the top. They immediately commence to lick up the honey, and forget to sting her. The general swarming time is the best time to introduce them to the box hive, and I will wait till next month to give the details.

Dwarf Broom Corn.—"D. R.", Orange Co., N. Y., thus gives his experience, for the benefit of the readers of the *Agriculturist*: "I raise annually enough to make 50 to 100 brooms. A few years ago I got a package of Dwarf Broom Corn seed, and since then I have raised both kinds, but think more of the dwarf every year. I do not intend to raise the tall kind any more, for the dwarf makes much the best brooms. The brush is about three inches longer on an average; is much firmer; there are no crooked heads, and it yields more on the ground. It does best to pull off the suckers just before it heads out. If left on they will grow a foot or more higher than the main stalk; their heads are poor, and they detract from and injure the main brush."

Books for Farmers and Others.

[Any of the following books can be obtained at the Office of the *Agriculturist* at the prices named, or they will be forwarded by mail, *post-paid*, on receipt of the price. All of these books may be procured in making up a library. We indicate our opinion of their value by one or more Stars.]

American Bird Fancier	$0 25
American Farmer's Encyclopedia	5 00
American Weeds and Useful Plants....**	1 50
Allen on the Culture of the Grape	1 00
Allen's (R. L.) American Farm Book*	1 00
Allen's Diseases of Domestic Animals	75
Allen's (L. F.) Rural Architecture....*	1 25
Barry's Fruit Garden....***	1 50
Bement's Poulterer's Companion....**	2 00
Bridgeman's Fruit Cultivator's Manual	60
Bridgeman's Young Gardener's Assistant	1 50
Bridgeman's Kitchen Garden Instructor	60
Bridgeman's Florist's Guide	60
Brandt's Age of Horses (English and German)....*	50
Breck's Book of Flowers....*	1 25
Browne's American Poultry Yard	1 25
Buist's American Flower Garden Directory	1 25
Buist's Family Kitchen Gardener....*	75
Burr's Vegetables of America....*	4 50
Chorlton's Grape-Grower's Guide	75
Cole's (S. W.) American Fruit Book....*	75
Cole's Veterinarian	75
Dadd's (Geo. H.) Modern Horse Doctor	1 25
Dadd's (Geo. H.) American Cattle Doctor....*	1 25
Dana's Muck Manual for Farmers	1 00
Downing's Cottage Residences....**	2 50
Downing's Fruits and Fruit Trees of America....***	2 00
Eastwood on the Cranberry....*	50
Employment of Women—By Virginia Penny....*	1 50
Every Lady her own Flower Gardener	25
Fessenden's American Kitchen Gardener	25
French's Farm Drainage....*	1 25
Field's (Thomas W.) Pear Culture	1 00
Fish Culture	1 00
Flint (Charles L.) on Grasses....**	2 00
Flint's Milch Cows and Dairy Farming....***	2 00
Fuller's Strawberry Culturist....*	15
Fuller's Grape Culturist.... ***	1 25
Goodale's Principles of Breeding..**	1 00
Gray's Manual of Botany and Lessons in one Vol..***	2 50
Gray's How Plants Grow	1 00
Guenon on Milch Cows	60
Hall's (Miss) American Cookery	1 25
Haraszthy Grape Culture &c.	5 00
Harris' Insects Injurious to Vegetation, plain....**	3 50
do. do. do. do. colored plates.**	4 50
Herbert's Hints to Horsekeepers....***	1 25
Johnson on Manures....**	1 00
Kemp's Landscape Gardening	2 00
Langstroth on the Honey Bee....**	1 50
Loudon's (Downing's) Ladies' Flower Garden....*	1 50
Leuchar's How to Build Hot-houses	1 25
Liebig's Lectures on Chemistry	50
Linsley's (D. C.) Morgan Horses	1 25
Manual of Agriculture by G. Emerson and C. L. Flint.	1 00
Mayhew's Illustrated Horse Doctor....***	3 00
Mayhew's Illustrated Horse Management....***	3 00
McMahon's American Gardener....*	2 50
Milburn on the Cow and Dairy	25
Miles on the Horse's foot	50
Mistakes of Educated Men....**	60
My Farm at Edgewood....**	1 50
National Almanac and Annual Record....**	1 50
Norton's Scientific Agriculture	75
Our Farm of Four Acres.. (paper 30c.) bound....*	50
Onion Culture ...***	20
Pardee on Strawberry Culture	75
Parsons on the Rose	1 25
Pedder's Farmer's Land Measurer	50
Phantom Bouquet, or Skeleton Leaves	1 00
Phin's Grape Culture	1 25
Quinby's Mysteries of Bee keeping....**	1 25
Randall's Sheep Husbandry	1 25
do. Fine Wool Sheep Husbandry	75
Rand's Flowers for Parlor and Garden....**	2 50
Richardson on the Dog	50
Richardson on the Hog	25
Robins' Produce and Ready Reckoner	60
Shepherd's Own Book, Randall & Youatt	2 00
Skillful Housewife	50
Smith's Landscape Gardening	1 25
Spencer's Education of Children**	1 25
Stewart's (John) Stable Book	1 25
Tobacco Culture ...***	25
Todd's (S. E.) Young Farmer's Manual....**	1 25
Tucker's Register Rural Affairs....*	25
Turner's Cotton Planter's Manual	1 25
Watson's American Home Garden....***	2 00
Warder's Hedges and Evergreens	1 25
Yale College Agricultural Lectures	50
Youatt and Spooner on the Horse	1 25
Youatt and Martin on Cattle	1 25
Youatt on the Hog....*	75
Youatt on Sheep	75
Youmans' Chemistry....*	1 25
Youmans' Household Science....***	1 50

Commercial Notes.

The following condensed, comprehensive tables, made up to April 15th, show the transactions the past month.

1. TRANSACTIONS AT THE NEW-YORK MARKETS.

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
27 days *this* m'th	209.000	156,000	285,000	7,500	126,000	353,000
24 days *last* m'th	201,000	46,500	147,000	6,100	91,000	222.000

SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*
27 days *this* month,	379,000	784,000	836,000	46,500	410,500
24 days *last* month,	432,000	2,501,000	1,154,000	16,500	287,000

2. *Comparison with same time last year.*

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
27 days 1864	209,000	156,000	285,000	7.500	126,000	353,000
26 days 1863	211,000	41,450	127,000	18,750	93,000	296,000

SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*
27 days 1864	379,000	784,000	836,000	46,500	410,000
26 days 1863	321,000	413,000	1,492,000	148,800	105,000

3. *Exports from New-York Jan.* 1. *to April* 15.

	Flour, bbls.	Wheat, bus.	Corn, bus.	Rye, bus.	Oats, bus.
1864	570,781	3,851,473	74,900	405	12,145
1863	705,603	3,860,161	2,251,870	127,270	100,707
1862	806,575	2,360,557	4,170,010	488,974	15,447

The Current Price Table shows the present value of the principal agricultural Products, with variations from last month. The chief activity has resulted from speculation, stimulated by the advance in gold, the rise in which has carried prices of some articles up materially ....WOOL was depressed until April 1st, but has since been more active at advancing rates. ...The future of prices of all products will depend entirely upon the spring campaign. Marked success to our Arms will knock gold down, and carry prices of all commodities with it.

CURRENT WHOLESALE PRICES.

	March 15.	April 15.
FLOUR—Super to Extra State	$6 30 @ 7 10	$7 30 @ 8 25
Super. to Extra Southern	7 00 @11 00	8 00 @11 50
Extra Western	6 75 @11 00	8 15 @11 50
Extra Genesee	7 15 @ 9 00	8 30 @10 25
Superfine Western	6 30 @ 6 55	7 30 @ 7 50
RYE FLOUR	5 50 @ 6 30	5 55 @ 6 35
CORN MEAL	5 28 @ 6 20	5 75 @ 6 35
WHEAT—All kinds of White	1 75 @ 1 95	1 90 @ 2 06
All kinds of Red	1 60 @ 1 74	1 72 @ 1 90
CORN—Yellow	1 25 @ 1 27	1 34 @ 1 35
Mixed	@ 1 31	1 33 @
OATS—Western	90 @ 91	89 @ 90
State	89 @ 90½	89 @ 90
RYE	1 27 @ 1 30	1 30 @ 1 31
BARLEY	1 28 @ 1 55	1 25 @ 1 50
COTTON—Middlings, per lb	77 @ 78	78 @ 79
HOPS, crop of 1863, per lb	23 @ 32	20 @ 32
FEATHERS, Live Geese, p. lb	68 @ 65	65 @ 67
SEED—Clover, per lb	13 @ 13½	12 @
Timothy, per bushel	3 00 @ 3 25	2 75 @ 3 12½
FLAX, per bushel	3 37½@ 3 55	3 45 @ 3 55
SUGAR—Brown, per lb	12½@ 15½	13½@ 17½
MOLASSES, New-Orleans, p.gl	68 @ 80	85 @ 1 00
COFFEE, Rio, per lb	35 @ 37	42 @ 42
TOBACCO—Kentucky,&c,p.lb	15 @ 35	12½@ 32½
Seed Leaf, per lb	16 @ 50	18 @ 65
WOOL—Domestic fleece, p. lb	68 @ 83	68 @ 83
Domestic, pulled, per lb	60 @ 77	58 @ 78
Wool, California, unwashed	25 @ 50	20 @ 50
TALLOW, per lb	12¾@ 13	13 @ 13¼
OIL CAKE, per tun	48 00 @53 00	47 50 @57 50
PORK—Mess, per bbl	22 00 @23 75	25 75 @25 87½
Prime, per bbl	18 25 @20 50	20 50 @23 50
BEEF—Plain mess	13 00 @15 50	14 00 @17 00
LARD, in bbls., per lb	13 @ 13⅛	13½@ 14⅜
BUTTER—Western, per lb	25 @ 34	25 @ 35
State, per lb	32 @ 40	35 @ 46
CHEESE	15 @ 18	15 @ 18
BEANS—per bushel	2 60 @ 2 80	2 60 @ 3 00
Broom Corn—per lb	8 @ 10	8 @ 10
EGGS—Fresh, per dozen	26 @ 27	24 @ 25
POULTRY—Fowls, per lb	15 @ 18	20 @ 24
Turkeys, per lb	17 @ 20	22 @ 24
PIGEONS—Wild, per doz		2 00 @ 2 25
POTATOES—Mercers, p. bbl	2 25 @ 2 50	3 00 @ 3 50
Peach Blow, per bbl	1 75 @ 2 00	3 00 @ 3 25
Prince Albert		2 75 @ 3 00
Nova Scotia, per bushel	55 @ 65	90 @ 1 00
TURNIPS—Ruta baga, per bbl	1 00 @ 1 25	1 50 @ 2 00
ONIONS, Red & Yellow p. bbl.	5 00 @ 6 00	7 50 @ 8 00
DRIED APPLES, per lb	7½@ 11	7½@ 11
DRIED PEACHES, per lb	25 @ 28	25 @ 29
DRIED RASPBERRIES, per lb	24 @ 25	24 @ 25
APPLES, Western, per bbl	2 75 @ 3 00	4 00 @ 4 50
Apples, Russets, Golden p bbl	2 00 @ 2 50	3 00 @ 3 50
CRANBERRIES, per bbl	7 00 @ 9 50	12 00 @18 00

U. S. 10-40 BONDS.

These Bonds are issued under the Act of Congress of March 8th, 1864, which provides that in lieu of so much of the loan authorized by the Act of March 3d, 1863, to which this is supplementary, the Secretary of the Treasury is authorized to borrow from time to time, on the credit of the United States, not exceeding TWO HUNDRED MILLION DOLLARS during the current fiscal year, and to prepare and issue therefor Coupon and Registered Bonds of the United States; and all Bonds issued under this Act shall be EXEMPT FROM TAXATION by or under any State or municipal authority. These Bonds are TO BE REDEEMED IN COIN, at the pleasure of the Government, at any period *not less than ten nor more than forty years* from their date, and until their redemption FIVE PER CENT. INTEREST WILL BE PAID IN COIN, on Bonds of not over one hundred dollars annually, and on all other Bonds semi-annually.

The interest is payable on the first days of March and September in each year. The semi-annual Coupons are payable at those dates, and the annual Coupons on the 50 and 100-dollar Bonds are payable on the first of March.

Subscribers will receive either Registered or Coupon Bonds, as they may prefer.

Registered Bonds will be issued of the denominations of Fifty Dollars ($50), One Hundred Dollars ($100), Five Hundred Dollars ($500), One Thousand Dollars ($1,000), Five Thousand Dollars ($5,000), and Ten Thousand Dollars ($10,000); and Coupon Bonds of the denominations of Fifty Dollars ($50), One Hundred Dollars ($100), Five Hundred Dollars ($500), and One Thousand Dollars ($1,000).

Subscribers to this loan will have the option of having their Bonds draw interest from March 1st, by paying the accrued interest in coin—(or in United States notes, or the notes of National Banks, adding fifty per cent. for premium,) or receive them drawing interest from the date of subscription and deposit.

The fact that these Bonds are exempt from municipal or State taxation enhances their value from one to three per cent. per annum, according to the rate of tax levies in various parts of the country.

At the present rate of premium on gold they pay over eight per cent. interest in currency, and are of equal convenience as a permanent or temporary investment.

It is believed that no securities offer so great inducements to lenders as the various descriptions of U. S. Bonds. In all other forms of indebtedness, the faith or ability of private parties or stock companies or separate communities only is pledged for payment, while for the debts of the United States the whole property of the country is holden to secure the payment of both principal and interest in coin.

These Bonds may be subscribed for in sums from $50 up to any magnitude, on the same terms, and are thus made equally available to the smallest lender and the largest capitalist. They can be converted into money at any moment, and the holder will have the benefit of the interest.

The fact that all duties on imports are payable in specie furnishes a fund for like payment of interest on all Government Bonds largely in excess of the wants of the treasury for this purpose.

Upon the receipt of subscriptions a certificate of deposit therefor, in duplicate, will be issued, the original of which will be forwarded by the subscriber to the Secretary of the Treasury, at Washington, with a letter stating the kind (registered or coupon) and the denominations of bonds required.

Upon the receipt of the original certificates at the Treasury Department, the Bonds subscribed for will be transmitted to the subscribers respectively.

Subscriptions will be received by the *Treasurer of the United States* at Washington, and the *Assistant Treasurers* at New York, Boston, and Philadelphia, and by the

FIRST NATIONAL BANK of New York, No. 4 Wall St.
SECOND " " " 23d St. & Broadway.
FOURTH " " " Pine Street.
SIXTH " " " 6th Av. & Broadw'y,

First National Bank of Bangor, Me.
First National Bank of Portland, Me.
First National Bank of Boston, Mass.
Second National Bank of Boston, Mass.
First National Bank of New Bedford, Mass.
First National Bank of Springfield, Mass.
First National Bank of Worcester, Mass.
First National Bank of Providence, R. I.
First National Bank of Hartford, Conn.
First National Bank of New Haven, Conn.
Second National Bank of New Haven, Conn.
First National Bank of New London, Conn.
First National Bank of Albany, N. Y.
First National Bank of Buffalo, N. Y.
First National Bank of Binghampton, N. Y.
First National Bank of Dansville, N. Y.
First National Bank of Elmira, N. Y.
Second National Bank of Elmira, N. Y.
First National Bank of Lockport, N. Y.
First National Bank of Syracuse, N. Y.
Third National Bank of Syracuse, N. Y.
First National Bank of Newark, N. J.
First National Bank of Carlisle, Pa.
First National Bank of Erie, Pa.
First National Bank of Meadville, Pa.
First National Bank of Philadelphia, Pa.
First National Bank of Scranton, Pa.
First National Bank of York, Pa.
First National Bank of Washington, D. C.
First National Bank of Cincinnati, O.
Third National Bank of Cincinnati, O.
First National Bank of Cleveland, O.
Second National Bank of Cleveland, O.
First National Bank of Columbus, O.
First National Bank of Hamilton, O.
First National Bank of Portsmouth, O.
First National Bank of Fort Wayne, Ind.
First National Bank of Indianapolis, Ind.
First National Bank of Terre Haute, Ind.
First National Bank of Cairo, Ill.
First National Bank of Chicago, Ill.
Second National Bank of Chicago, Ill.
Third National Bank of Chicago, Ill.
First National Bank of Ann Arbor, Mich.
First National Bank of Janesville, Wis.
First National Bank of Milwaukie, Wis.
First National Bank of Davenport, Iowa.
First National Bank of St. Louis, Mo.
First National Bank of Louisville, Ky.
Second National Bank of Louisville, Ky.
First National Bank of St. Paul, Minn.

and by all National Banks which are depositaries of public money. All respectable Banks and Bankers throughout the country will furnish further information on application, and afford every facility to subscribers.

Containing a great variety of Items, including many good Hints and Suggestions which we give here in small type and condensed form, for want of space elsewhere.

Basket again Overflowing.—The Calendar of Operations, which fills four pages, is so important this seed-time month that we have allowed it to crowd other departments. This, with an error in receiving too many advertisements, crowds out many "Basket Items" in type. They must have room next month.

To Correspondents.—Half a million intelligent, thinking, talking, writing readers have given us more letters than we could possibly answer. Please accept this excuse for delay in responding to several letters.

"Errors Corrected."—In writing up this year's Mail Books, a few errors have been made—a remarkably small number, considering the number of names to be entered, and the frequent indefiniteness of the directions given in the letters containing them, the omission of name, of State, etc. If there is any living man who can pick 100,000 names out of letters, with their Post-Office addresses, as usually written, and with no mistakes, we will employ him at a large salary. We always *desire* to be informed of any error, and correct it promptly.

The Drawing Instruments here at Last!—A large invoice of the beautiful cases of Drawing Instruments for Premiums, which were ordered from Paris in November, and which should have been here early in January, did not arrive until April 12th. None of our friends entitled to them can have been more annoyed than ourselves, at this extraordinary delay. We have previously purchased, at extra expense, and sent out to fill premiums, all the similar instruments we could find in the city, so that we shall now have a small overplus after filling the premium demands, in addition to come in. These surplus sets will be sold to those first calling for them at $6 50 per set, including pre-paid postage. They are in neat rosewood cases, and the price is less than they could be sold for, if imported at the present price of Exchange. See engraving and description in January *Agriculturist*, page 25.

A Very Mean Imposition.—Every now and then, a subscriber sends us an advertisement or circular that has come folded up in his regular copy of the *American Agriculturist*. Some of these circulars are descriptive of unseemly or vicious books, medicines, instruments, etc., such as no parent would wish to have drop out into his family circle. We *never* put anything in the shape of a circular or handbill in any paper; and as the papers are put into the mail bags in our own mailing rooms, such additions must usually be made at the Post Office where they are received, by some clerk or other person who is privately acting as agent for the venders of the reprehensible articles. It is a double imposition, *first* upon the publisher, who is thus made to appear to countenance the swindling; and *second* upon the reader, who is made the unwilling recipient of a thing he would on no account bring into his family. We ask the aid of every one so imposed upon, in ferreting out the guilty parties. Any Postmaster proved to be guilty of such an offence will be instantly dismissed by the Department at Washington, as we are assured.

"Ten-Forties."—We cheerfully give a place in our reading columns to an advertisement of the New **10-40** U. S. Bonds, thus called because they have 40 years to run, but may be paid after 10 years. We know of no better investment than these for small or large sums. The 5-20 six per cent Bonds are already selling at 114 to 115, and few can be had. The 10-40 Bonds are relatively more valuable, because having a longer time to run. In England, a three per cent permanent Government Stock is considered a good investment, though the National debt is still twice our own, and the ability to pay very far less. With our National troubles settled, as we hope and believe they soon will be, all Government Stocks will stand at a high premium. They have pledged for their payment the whole property of the country, and take precedence of all other debts. If the public faith should ever fail, no other security would have any value. The increased confidence in the triumph and stability of our country is already creating a very large foreign demand for our National Bonds, and with the return of peace, this demand will so increase as to call for a large share of our National debt, to be returned only as we demand the privilege of paying it. The longer running 10-40 Bonds will be most sought after abroad. The present prospect is, that the 200 million Popular Loan will soon be all taken up. This may be followed by a 4-per cent. loan if more funds are needed. People so well understand the security and convenience of stable Government Bonds, the interest payable at regular periods in gold coin, and the interest coupons being everywhere equivalent to gold, that even a 4-per cent Bond would be preferred by many, to 6 or 7 per cent property mortgages. Everything considered, we answer "yes," to a considerable number of readers who have recently asked us if it is advisable for them to subscribe for the 10-40 five per cent. loan. The particulars can be learned from the advertisement.

Sales of Well-bred Stock.—There has been considerable activity of late among cattle breeders all over the country, and many Short-horns, Ayrshires, and Jerseys have changed owners at very fair prices. At the Towneley sale of Short-horns at Burnley, Lancashire, England, March 17th, the buyers congratulated themselves on the absence of Americans, and the competition of the "Almighty Dollar." Nevertheless, the average price brought by 45 cows and heifers, and 10 bulls, was £128 7s. 11*d.*, or fully $640 (gold). One 3-year old cow, Royal Butterfly Duchess, was sold to Mr. Betts, for 500 guineas—over ($2,500 (gold), and a heifer coming two years old next August, sold to Mr. Eastwood for £590, which is nearly $3,000, (over $5,000 in green-backs.)

"Ten Acres Enough."—A work of 255 pages, published by James Miller, New York. This professes to give the experience of one who moved from the city to a farm of ten acres, and contains an account of what he did, which would be interesting and useful, if we had proof of its reliability. The author withholds his name, and after reading his 23rd chapter, we don't wonder at it, for a more out and out specimen of literary robbery we have seldom seen. This chapter is mainly made up, paragraph after paragraph, from an article by Donald G. Mitchell, entitled, "Hints about farming", and published in the New Englander for November, 1860, pp. 889 to 907. Where we find such a thing in one part of the work, we suspect the whole, and this feeling is not at all diminished by finding the advertisement of some New Jersey Land Company, in whose interest it appears to be written, at the end of the book.

Plants for Names.—W. P. T. Pope, Bald Eagle Furnace. The leaves sent are those of the Trailing Arbutus, sometimes called May-flower (*Epigaea repens*), one of our most beautiful prostrate shrubs. It is not usually classed among medicinal plants, but Mr P. says it has a reputation in diseases of the kidneys. It is difficult to cultivate in the open ground, but one of our associates has it growing finely in a Wardian case. I. F. Hackman, Middlesex Co., Conn. The leaf sent is from the *Aucuba Japonica*, the Gold Dust Tree. A very pretty evergreen, but not hardy in the Northern States.

Mailing Boxes for Plants.—About 50 have been received, and others are still arriving. We have not time to write to each contributor of these. Experiments are in progress with them, but it may take some weeks to decide upon the best. Several send letters and boxes separately, without sufficient description to tell which box a letter refers to; as several samples from different sources are very similar.

Dogs.—"W. S. B.," Whitley Co., Ind. In this country we think a larger, more powerful and pugnacious dog is required by the shepherd than the English and Scotch shepherd dogs, which, however, in point of intelligence, kindness to the sheep, and ease of training are not surpassed. The Spanish, Mexican and South American dogs, if they are well trained, can and will be the death of any thing of the canine tribe that comes near the flock, and are, in fact, so "sharp" that it is often dangerous for a stranger to approach the flocks they guard. They may be trained as drivers to nearly equal the colley. We recommend farmers whose flocks are liable to injury from dogs—and whose are not, to secure some of these sagacious and powerful animals. At all times, however, keep a good rifle, or smooth bore loaded with a heavy charge of buck shot, and if possible kill every dog that passes your farm unaccompanied, and particularly any one that may be found upon your land. Three grains of strichnine is fully equal in its effects to an ounce of lead in the brain or heart, and often more easily and less noisily administered.

Beware of Gold Mines.—Just now there is a great rage for investing in the gold and silver mining companies. Scores of these companies are being formed in Eastern cities, each one of which holds forth (on paper) the most wonderful prospects. The fact that a very few mining companies have been lucky in striking upon a valuable vein, is held up as an example of what others are likely to realize. A San Francisco paper gives a list of 95 companies, organized in California, by *persons on the spot*, of which the stock of only 5 (1 in every 19!) is worth par, or what it originally cost the subscribers. What can those at a distance expect then, those who have only hearsay, or the statements of interested, perhaps visionary, or over-sanguine parties to guide them. The truth is, a man has a better chance of winning a prize in a lottery. As with the gold diggers, so with the Eastern formed mining companies, where one will chance to be successful, forty nine will loose their money invested. We have aimed several paragraphs at some of these companies. The men engaged in one of them, took our remarks as aimed specifically at themselves, and called upon us with documents to show their legitimate organization (though it was not so until after our first paragraph was published on the subject), and to show their personal responsibility, all of which we admit. But we failed to be convinced of the positive good prospects of the company. One of the parties is alone able to take all the stock required, and if he had full faith in all that he holds out to others, he would not invite them to give $2½ to $5 for shares that according to the statements put forth will so speedily become worth as many thousands.

A Fine Azalea.—There is no better spring blooming plant for the green-house or conservatory than *Azalea Indica* in its different varieties. It stands a deal of hard usage and seldom fails to cover itself with flowers. John Hutchinson, gardener to F. A. Lane, Esq., placed upon our table the finest specimen we have seen in many a day. It was the variety called *Iveryana*, and was so full of flowers that scarcely a leaf could be seen. Indeed it was a beautiful specimen.

The Plural of Cactus.—Ellie C. Jarvis, Boone Co., Mo. If cactus is used as a Latin word, the plural is *cacti*, when it is employed as an English word, we prefer to make the plural in the usual way, cactuses.

Catalogues, etc., Received.—H. B. Lum, Sandusky, O., Flower Seeds: E. Williams, Mont Clair, N. J., Small Fruits: Buist's Almanac and Garden Manual, Phila.: Alfred Bridgeman, New-York, Flower and Vegetable Seeds: Spring Catalogue of New Plants, Peter Henderson, Jersey City, N. J.: Knox Fruit Farm and Nurseries, J. Knox, Pittsburgh, Pa.: Proceedings of the Missouri State Horticultural Society, 4th Annual Meeting: An Essay on the Culture of the Grape in the Great West, by Geo. Husmann, Hermann, Mo.: J. M. Thorburn & Co., New-York, Flower Seeds: Husmann & Manwaring, Hermann, Mo., Fruit and Ornamental Trees: Transactions of the Mass. Horticultural Society for 1863: Descriptive Catalogue of choice Annual and Biennial Flower Seeds—Mark D. Wilson, Rochester, N. Y.... Dreer's Garden Calendar for 1864, containing directions for cultivation and a list of Seeds and Plants, Henry H. Dreer, Phila.: Fifth Annual Report of the Secretary of the Iowa State Ag'l. College, 1864...Transactions of the R. I. Society for the Encouragement of Domestic Industry for 1863: Phœnix's Bloomington (Ill.) Nursery List: Supplement to Hovey & Co's Catalogue of Seeds.

Herbarium for Hamilton College.—Prof. E. North writes that Hamilton White, Esq., of Syracuse, has purchased and presented to Hamilton College the herbarium of Dr. H. P. Sartwell, of Penn Yan, N. Y. The collection contains about eight thousand specimens of plants. From our acquaintance with Dr. S., as a careful botanist, and a maker of most excellent specimens, we congratulate the college upon the possession of so valuable a collection.

Good Returns for One Dollar.—Mr. Wm. Havenbull, of Kendall Co., Ill., received one year ago four Triomphe de Gand strawberry plants as his premium with the *Agriculturist*. Last autumn he sold four hundred plants at one dollar a hundred, and had four hundred more left to plant a bed for his own use.

Seeding to Grass—Information Wanted.—The practice of good farmers in different parts of the country varies more in regard to sowing grass for permanent mowings, or for "stocking down" for a number of years, than in regard to almost any thing else. Common practice in any one section is not a safe guide for other parts of the country; neither is it always best or expedient for the district where it is most used. We shall be very glad to hear from many of the readers of the *American Agriculturist* on this subject, and will arrange for the benefit of all, the facts thus gathered. Please state—1st. Kind of soil and if good grasses would grow without seeding. 2d. The time of year you prefer to sow grass seed. 3d. The kind of grass sown and the quantities of each. 4th. How long each kind is likely to last, before giving way to other sorts more natural to the soil or propagating themselves more readily.

Prairie Breaking in Southern Ill.—W. F. M., Washington Co., Ill., writes: "We break prairie as early as we can, breaking rough that the harrow may tear the sod well to pieces; let it lie until after oats are sowed, then harrow until pretty fine, and sow flax. By fall it is in splendid order for sowing wheat. We always make more money from flax and wheat for the two first crops than any other kinds of crops we can plant."

What Grass Seed to Sow for Pasture?—The soil is full of grass seeds—some are the very best that can be on the soil, others less valuable. Where a pasture is made, farmers often sow timothy, red and white clover, with a portion of red-top, and perhaps some hay-seed from the hay floor. This does well, but we are asked to name some grasses for permanent pasture—the seed of which can be obtained. We give, therefore the following from our own experience and the testimony of others, as a good mixture: Meadow Foxtail 5 pounds, Orchard grass 5, Meadow Fescue 3, Ky. Blue (June) grass 3, Perennial Rye grass 6, Wood meadow 3, Rough Stalked meadow 3, Sweet Scented Vernal 3, White Clover 6, and Red Clover 3;—in all 40 pounds.

Lucerne or Luzern.—G. Bost, Hennepin Co., Minn. Worcester, Webster and Gray say Lucerne, and it has been spelled that way intentionally. Indeed in the last *Agriculturist* it was accidentally spelled with a z, which was unnoticed until the page was stereotyped and we went to the expense of having the plate altered in order to conform to good usage. In adopting words from another language into ours, neither the spelling nor pronunciation are of necessity preserved. In this case *Luzern* is German and *Lucerne* is French.

Marl.—S. Howard, Jr., Alleghany Co., Mich. The substance called marl in your State is bog lime stone, a concretion of shells and fragments of shells, with some vegetable and earthy substances intermixed. Some marls are very beneficial applied raw—that is, after being exposed to the air and broken down to a crumbly mass. They are used as top-dressings upon grain or grass in the spring, or upon grass after mowing, or in the autumn, and are also spread and plowed in. If the marl is rich enough in lime to make it worth while to burn it for ordinary use, this lime of course would be valuable as a manure, and it is not improbable that your marl would be best used in this form, as quick lime, or slacked lime. A peck of lime to the rod of garden is a fair dressing—and we know of no limit to the quantity of shell marl which might be used without injury. (Lime in either form makes peas boil hard.)

A Corn Crop that Paid.—A subscriber to the *American Agriculturist*, in Ottawa, Ill., sends the following account of a corn crop, the second one from new prairie land: *Paid out* for rent of 45 acres, $135; for help in planting, $3; paid for husking, $47; total, expense out, $185. *Received* 52½ bushels per acre, or 2362½ bushels of corn, which sold for 80 cents per bushel, or $1890. Deducting $185 leaves $1705, for seed and his own 99½ days work, viz: breaking old stalks, 2½ days; plowing, 21½ days; harrowing, 4 days; marking, 2½ days; planting, 3 days; harrowing after planting, 5½ days; plowing out three times with a two-horse plow, 23½ days; husking, 18 days; and hauling off, 19 days. No manure used. Expense of team not stated. This was far above the average yield last year in Illinois, as the ground was very high, and the corn not injured by frost. The result would also have been very different in ordinary years, with corn at 15c. to 25c., per bushel.

Applying Gypsum to Corn.—M. J. M. It may be applied in the hill at planting at the rate of a tablespoonful to a handful, or with perhaps better effect at the same rate cast upon the hill at the first hoeing, so that it will be somewhat mingled with the soil.

Corn and Cob Meal.—We have no faith in the cob part for any thing. There is pretty good evidence that the hard, indigestible plates of the cob are often hurtful. The cobs of well ripened corn are no more nutritious than white oak sawdust; those of soft corn and nubbins are in part digestible and perhaps somewhat nutritious, but not worth so much, in our opinion, as an equal weight of wheat straw.

Hungarian Grass, or Millet.—These plants are of the same species (*Setaria Italica*), differing from each other as different kinds of Maize vary. The Hungarian grass grows much shorter, has a purplish green head, very bristly like the foxtail or bottle grass. Both are excellent fodder crops. The Hungarian is best sowed June 1st to 25th, produces a hay much like rank Timothy, but sweet and much liked by cattle. It should be cut in blossom. The millet, sown at the same time, is coarser, but if cut while the grain is in the blossom or in milk makes good hay also. On the whole we give preference to the Hungarian. Another kind of millet (*Panicum Miliaceum*) was formerly a good deal cultivated, but we have seen little of it of late. The two are often confounded. It is also a good fodder crop, and is treated in the same way. Hungarian grass is said to prove occasionally fatal to horses; and this is attributed to the bristly envelop which surrounds the fully ripened seed.

Beardless Barley.—M. W. Hall, Fond du Lac Co., Wis., asks, "What is it good for? and does it pay to raise it? Testimony that has come to our knowledge is conflicting. What is the experience of the readers of the *American Agriculturist?*

Pleuro Pneumonia.—Dawson Hunt, an Irish farmer of intelligence and experience, who visited this country preparatory to bringing out his family to remain, called at the office of the *Agriculturist* and gave his experience with this direful malady. Our often expressed views were fully confirmed, in regard to its contagiousness and fatality under ordinary circumstances, but he says he has for some years used the following recipe as a preventive to this disease: Whenever a new animal has been brought into the herd, he gave it to the new comer, and to all the rest. Tartar emetic 40 grains, nitre 40 grains, digitalis powder 10 grains—mix; give in a bottle of cold water after fasting. He gives the full dose to an animal 3 years old, ⅔ to a 2 year-old beast, and ½ to a yearling. The disease is working great damage in Great Britain, but since using his prescription he has had scarcely any fatal cases.—It is worth trying here.

Profitable Cows.—J. Tilman, Lehigh Co., Pa., sends to the *Ameriaan Agriculturist* the following account of three cows, for the year 1863: 600 lbs. butter sold at 20 cts. per lb., and two splendid calves worth $18 each, making a total of $156, or $52 for each cow. They were fed with 2 quarts each of wheat bran mixed with cut corn fodder in January, February, March, April, and December, and turned out to pasture the rest of the year.

Sheep kept on Wheat Straw.—A friend informs the *Agriculturist* that he kept 40 sheep, weathers and ewes, 2 years old or over, not breeding, from the time they were taken up until April, on wheat straw and half a pound of corn per day. They held their own perfectly. At one time ⅔ of a pound of corn was fed, and it produced indigestion, or at least, some of the sheep got "off their feed." The straw was cut down from the stack once each day and spread upon the snow. It would have gone much further if it had been fed three times a day in racks.

Sheep—Salt for Stretches.—From the same source comes the following communication: "I have found common salt an effectual preventive and also cure for stretches, alias constipation, in sheep. My sheep have no stretches while their salt trough is supplied; if not furnished for a few days I am sure to see symptoms of the disease, which a fresh supply of salt immediately removes."

Time to Shear Sheep—Scab.—W. H. R., Rockville. Shearing is best delayed until the weather is warm, about the first or middle of June, especially if the sheep are washed before shearing—a practice which we deprecate as injurious to the sheep, a disagreeable labor, and of no real benefit to the manufacturer. The scab is highly contagious and caused by a minute insect termed *Acarus*. It is cured by dipping the sheep in pretty strong tobacco water, or by an application of unguentum. The dipping is best done after shearing. The lambs not being dipped, all the ticks take refuge on them, and when they are dipped some weeks after, both the scale and the ticks are killed at once. Your other questions you will find answered in past and present numbers of the *Agriculturist*, or in any good sheep book.

Cure for Foot Rot in Sheep.—J. W. Rhodes, Cayuga Co., N. Y., writes to the *American Agriculturist*: "I have a sure and immediate remedy for foot rot, viz: Cleanse the foot thoroughly, pare the hoof fearlessly until you reach the bottom of every little crevice, and then thoroughly apply liquid chloride of antimony daubed on with a swab so as to touch the whole cleft and all adjacent parts." Mr. Rhodes applies this at any time during the winter or after the ground freezes—the disease at this time of the year not being contagious. The contagion is arrested by severe frosts. This substance he considers much more conveniently applied and more economical than the hot blue vitriol solution.

Litter for Breeding Sows.—The experience of Dr. Hexamer, of Westchester County, N. Y., is greatly in favor of saw-dust above any other material, as litter for pigs and sows, particularly for those with very young litters. They will keep their nests entirely clean and dry for a long time. The little pigs can not hide themselves in it as they will in straw, and thus the danger of the sow lying on and killing them is removed, a casualty that happens very often, particularly with heedless sows, which are often the best breeders. Tan bark would probably be equally good if put in dry.

A Plan for a Piggery.—There was an excellent plan published in the last Vol. of the *Agriculturist*, page 297, but being too expensive for some of our readers, another is called for. Where manure making is an important part of farm business, and hogs are kept in close pens, the plan referred to is none too expensive. There are three things necessary or desirable in a hog pen: 1st. A place for throwing vegetable matter, weeds, muck, etc., for making manure. 2d. A warm, dry, well-ventilated nest-place. 3d. A feeding place, easily cleaned out, and so arranged that pigs cannot be too "hoggish," and get an undue share of feed. Besides these, a convenient covered place for cooking feed, and a place for storing litter, muck, etc., in winter, and roots and feed at all seasons are highly desirable. It is poor economy not to have buildings of this sort convenient.

Gapes in Chickens—A Timely Hint.—"Coxsackie" writes to the *Agriculturist*: "Tried all sorts of 'cures,' without success, and almost determined to abandon raising chickens, on account of the great losses from this cause. I have learned that 'An ounce of prevention is worth a pound of cure,' and believe the only sure way to *cure* gapes, is not to have it. About three years ago I asked a neighbor if he had much trouble with gapes; he replied none whatever, and gave as a reason that he had the meal *cooked* for young chickens, and was careful not to give them much for several days after they were hatched. I have since followed his example and have not been troubled with gapes."

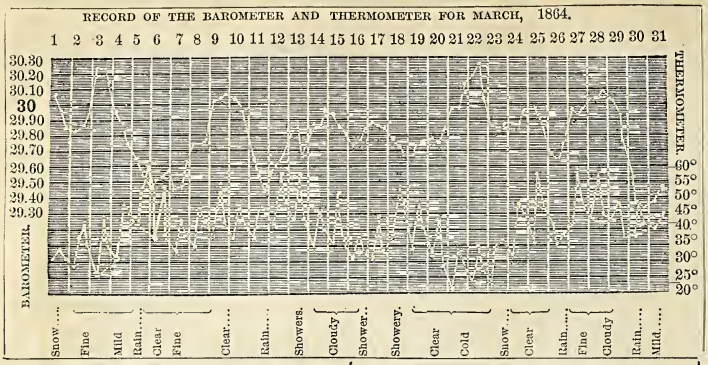
Fowl Houses in Barns.—A correspondent writes as follows (approving of the Pa. Double Decked Barn in general): "A fowl house in a barn will be likely to make the whole concern a *foul* house. It is next to the hospital too, and if the fowls, roosts, etc., should get lousy, and the lice emigrate to the *hospital*, the poor sick animals would have a sorry time."

Cure for Gapes.—Alfred D. Sharples, Centre Co., Pa., communicates to the *American Agriculturist* the following directions: "Take a 3-inch piece of snood (the "silk-worms gut" used for attaching fish hooks to the large line, sometimes called "snell gut") double it and fasten by fine silk to a handle 8 inches long, leaving one inch loop. The instrument being ready for use, place the chick's legs between your knees, then with finger and thumb of left hand, one in each corner of the biped's mouth, and stretching the neck upward that you may see the opening in the front of the gullet, insert the instrument as far as it will pass readily, and turning it with the fingers withdraw it, when you will find the worms in the lower part of the loop—provided the chick had the gapes. The handle should be of smooth whalebone or hickory, about a sixteenth of an inch in diameter.

How to keep Eggs.—(1) Pack the fresh eggs in a barrel and cover them with clear lime-water made by slaking lime to a milk with hot water, then pouring it in excess into a vessel of water, stirring up, covering and letting it stand until clear. (2) Grease the eggs with good lard so as to exclude the air perfectly; pack in boxes setting them on their ends so that the boxes may be turned over without breaking the eggs. Once in about two weeks turn the boxes over. This prevents the yolks coming in contact with the shell, and becoming spoiled. (3) The same mode of procedure may be followed without greasing the eggs, with good success, and (4) the greasing alone has its good effect.

To Comminute Bones.—Whole bones may be easily and cheaply obtained in all parts of the country, but it is troublesome and expensive to grind them or reduce them in any way to a desirable state of comminution. Try this plan and report: "A heap of bones, broken up somewhat, laid up with a little sawdust, and moistened with chamber ley or the strong leachings of a manure heap, will ferment, and the bones will decompose so that they may be crushed and crumbled."

Bean for a Name.—"A. M. P.," Delhi, N. Y. The beans appear to be identical with the Wax Bean of the seed-stores. Also called Indian Chief, Butter Bean and Algerian. It is a pole bean, a profuse bearer, and valued as one of the richest snap beans. It is not as early as some of the bush varieties, but is much richer, and the pods can be cooked until the bean is large enough to shell. The seeds when ripe are black with white scar.



NOTES.—Rain and melted snow as follows: Snow 1st, 2d, and 23d, 0.58 inches; Rain, 5th, 10th, 11th, 26th, 30th, and 31st, 1.57 inches.—Showers on 13th and 15th.—Snow fell lightly on the 15th and 16th.—A southeast gale prevailed on the 18th, and northeast gales on the 26th and 30th.—Temperature uniform for the season: maximum, 58.0; minimum, 22.2.—The fluctuations of the barometer were between 30.230, maximum, and 29.349, minimum.

March 31, 1864. O. W. MORRIS,

Grape Notes and Queries.—E. W. Knight speaks of two kinds of Clinton. The true has no foxiness at all. The question as to the originator of this vine is still undecided.... Underhill's Seedling.—"W.", Oyster Bay, N. Y. This is the same as the grape which has been called the "Celestial," and though the name has been changed, its quality has not. It is sold at a high price and is no better than, if as good as, the Northern Muscadine and other fox grapes....R. O. Beers, Fairfield Co., Conn., gives his experience with grafting the grape. He waits until the vines are in leaf, and then takes roots "as large as knife handles or smaller," and inserts a cion of two eyes by cleft grafting, without waxing, and plants the grafted roots. Of course the cions were kept dormant. Mr. B. succeeded with 30 out of 34 by this method....A. Harris, Appenoose Co., Iowa. There is not enough known of the Concord to say whether it will succeed as a wine grape with you. Its reputation in this respect would seem to be established in the Southwest, but we have no testimony as to its success as a wine producer in the North and East. Climate has much to do with the amount of sugar in any variety,

Waste Corners should be cleared up and occupied this season with some growing crop. All kinds of farm and garden produce not wanted in the family will doubtless sell well at high prices for a year to come, and no spot should remain idle. If not planted at the usual time with ordinary crops, put in turnips or carrots a little later, or plant corn or peas for a succession.

Osage Orange Fences—Bending the tops down.—Frank French, Winnebago Co., Ill., sends to the *American Agriculturist* his method of treating hedges, as follows: "I turned down the tops of a piece of hedge, took some little crotches and pegged them down, and buried them about 8 inches deep, in the fall of 1862. I never saw any shoots grow faster, and this spring I intend to bury the tops of a long piece more, which I neglected to do last fall. I presume I shall get my fingers scratched, but I shall have a tight, quick-growing fence." The tightness of a fence made in this way we can testify to. It is absolutely dog-tight, and rabbit-tight too, we should think.

Works on Fruits.—M. M. Buckley, Stamford, C. W. The revised edition of Downing's Fruits brings the work up to 1857. For all varieties introduced since then it will be necessary to refer to the current periodicals and the Reports of the Am. Pomological Society.

Cole-Slaw.—"J. L. F.," Chester Co., Pa. This name of sliced cabbage, is correctly spelled as above. Cole is a general name for the Brassica or cabbage tribe; Slaw is from the Dutch *Slaa*, signifying *sliced*.

Sorghum Culture.—The requisites to success in the cultivation of the sugar sorghum are good seed, a soil not too rich in vegetable or animal matter, but loose and deep, and of fair strength, and good culture. The seed ought to be soaked before planting, and covered very lightly. Planting in drills, 3½ feet apart, is now preferred, and at the first hoeing the plants are thinned to 8 or 10 inches apart; subsequently every other one is cut out, which will leave them standing in the rows 16 to 20 inches apart. The suckers are allowed to grow when in drills; but, if the sorghum be planted in hills, it is best to leave 5 plants to a hill and remove all the suckers. The remaining culture is like Indian corn until the cane is ready to harvest. The importance of this crop to the country is beginning to be appreciated. The Great West is fast coming to provide its own sweets, and between honey, maple sugar and sorghum syrup the demands upon the eastern markets are very greatly reduced. The quantity produced has been vastly overestimated, but still it is very great. Combinations of neighboring farmers ought to be formed to buy one of the largest and best evaporators, and setting it up in a conveniently central place, have it ready to convert their cane-juice into syrup well and rapidly in autumn.

Planting Beans too Deep.—J. B., Oberlin, O. Two inches is far too deep to cover the large sorts of beans. Limas for instance, have to push up a large head, and if the ground is heavy it is impossible for them to force through. A covering of half an inch is sufficient. Limas should be stuck in, eye down, simply covering them a little more than out of sight. A successful gardener of our acquaintance plants his Limas in a warm sand bed, sticking them in thickly, but does not cover them out of sight even. The bed is watered if dry, and when the roots have grown an inch or two, they are transplanted to permanent positions.

Striped Squash Beetle.—"Coxackie" writes to the *American Agriculturist* concerning this pest: "Last year I escaped wholly. I started melons and cucumbers in the ground, protected against the cold by small boxes four to five inches high, each covered with a pane of glass, and my watermelons were protected by old sash frames about two feet square and four inches high, with sashes. Not a striped bug did I see on the whole lot, even after the glasses were taken off. Finding my young squash plants attacked by multitudes of bugs, I put square open frames about them, and not a bug troubled them afterward. From careful observations during last spring and early summer, I am satisfied the striped bug will not fly over an obstacle 4 inches high, and this cheap contrivance perfectly protects the plants."

Should Cabbages be Transplanted?—H. Eaton, asks if cabbages do best grown from seed in the hills or transplanted. Some good cultivators plant the seed in the hills. We tried it but once and found it twice as much trouble, and not producing near as good cabbages as a lot transplanted on the same ground. Hog manure said to produce club-foot; sea-weed and stable manure good. Winter cabbages are sown in hills in June.

Sundry Humbugs.—A large batch of material received from subscribers, was placed in the hands of the City Detective Police several days since, but the constant attention required at the great Fair, has prevented their doing much in this line, as yet....Better save postage on circulars from pretended agents in New-York and elsewhere, for the *Covington, Ky., lotteries, all* of which are humbugs. You will get no return for the money sent them, no matter how great their promises. We tried to find a few of them, but they have no location except a post-office box. The "Bankers," so advertising, have only one *receiving* teller—no *paying* teller.... Will the Mayor of Chicago, Ill., please look after the filthy swindler, who advertises by private circulars from P. O. Box 6529, in that city?... ...We don't keep a "collecting agency," friend Taber, and therefore can't collect that $200 prize you have drawn, even for the "99 per cent." you offer...."Q. A. Johnston, corner of Elm and Mill-streets, Plaistow, N. H.", (an elm tree by the side of a mill dam?) has told hundreds of others the same story. If he will call in we will sell him a dozen of his $200 prize tickets, for 5 cents—their value as paper rags. How large a city is Plaistow, Mr. Johnston?.... The "Railroad Laborers" and others who have sent 25 cents to "*Wood, Hoyt & Co.*" N. Y. City, have got all they will ever get—two shillings' worth of experience—cheaply bought, unless they are foolish enough to send the extra dollar asked. Nobody but the Postmaster can find any such firm here....For exposure of "*Freeman's Journal of Science and Medicine*," see last December's *Agriculturist*, ... *Cheap Sewing-Machine* "*Agencies*," hailing from Maine, are especially to be avoided. The falsehoods told about their $10 machines ($4 to agents, *after* they pay $10 for the first one, whether they get it or *not*), are very plausible and easily put on paper, which being very thin don't cost much, even now, Those who get one of these machines for the $10 sent (few do), will be able to pay a small portion of the freight expenses by selling the thing for old iron. ...A new *Employment Dodge*: A fellow in New-Jersey writes to every one advertising for a situation that if they will send him 50 cents, he will secure one at $85 a month. Ask him to get the place and promise him a $5 bill when he gets it for you. ....A subscriber says an "agent" for "*Kelly's Pump*" collected $5 each from a number of persons for town rights, but nothing comes in return.....What a kind man is D. B. Wallace, Box 2348, Philadelphia, to *offer* to send a lot of jewelry, etc., worth $15 each, for only $1 each, and throw in a $25 silver watch for each $15, and a $60 gold watch for each $40 sent to him. Whew! Forty $15 articles ($600), and a $60 watch, making $660—all for $40!!! A big offer *if* it were ever filled.

Prices of Books are advancing somewhat, though not in proportion to the increased cost of paper, etc. It will be noticed in the list on page 133, that only a few differ from last month's rates. We can only promise present prices to continue for the month.

The Agriculturist Sanitary Fund.—The multitude of letters received in reference to this, show a great interest everywhere in the enterprise, while they tell of a local effort put forth in almost every town and neighborhood throughout the country, which we had not fully appreciated, or we should not have proposed the plan at all. It will, however, serve the original design of giving a medium for contributions from all who can spare a dime or dollar more to aid the soldiers. When the contributions are mainly in, we shall acknowledge them with the contributors' names.

The N. Y. Live Stock Markets.—*Beef Cattle* are still in light supply, averaging 4,150 per week. Prices unprecedently high—the best, fat, heavy beeves selling at 17 cents per lb. estimated dressed weight, and down to 13c. for the poorest....*Cows* scarce and high, owing to advance of dairy products; good, fresh milkers, $50 to $60 each....*Veal Calves* abundant, especially of young, poor animals; prices range 5c. to 9c. per lb. live weight, according to quality....*Sheep* are selling quickly at prices ranging from 8c. to 10¼c. per lb. live weight. Pelts average $4 and more....*Live Hogs* sell quickly at 8¾c.@9¾c. per lb. live weight, for corn-fed.

Any Number of the Agriculturist Wanted, from January, 1857, to the present time, can be had for 10 cents. We have stereotyped plates of the last seven volumes, and print back numbers as needed. Complete volumes (from 16 to 22) are sent post paid for $1.24 each, if unbound; or $2.00 each if sent bound. (At the office, or by express, unpaid, $1 and $1.50 each.)

Condensed Items.—TWO MONSTER OXEN, donated from Livingston and Tompkins Counties, N. Y., are worth seeing at the Great Metropolitan Fair. More about them hereafter.....The GREAT HOG, "Benham's Challenge" can be seen for several weeks at least at the *Agriculturist* Office.....DALTON'S KNITTING MACHINE, a simple and effective implement, is on exhibition here also.....The GAS MAKING MACHINE advertised on page 153, appears to be worth looking into. A friend, in whom we have confidence, who has used one two months, says it is all that is claimed for it.....No one will omit to read the advertisement of the RAIL ROAD LANDS IN ILLINOIS, a State that bids fair to soon outstrip all her sisters in agricultural wealth, and all but one in population.....The "AGRICULTURIST STRAWBERRY," will begin to be distributed in August; we have never promised it earlier, though we could have sent it out this spring, but for the unprecedented drouth last autumn..... The METROPOLITAN SANITARY FAIR is doing splendidly; it is worth going a thousand miles to see it. The receipts now (April 15) are nearly up to the promised million dollars, while the display of articles seems as large as ever, and the attendance is undiminished.

NARRAGANSETT. N. J. WHITE ½ DENT. R. I. ASYLUM. TUSCARORA. OHIO DENT. KING PHILIP. R. I. PREMIUM.

Indian Corn (*Zea Mays*)—Varieties.

Most of us are familiar with Indian Corn in several varieties—sweet, flint, pop, and horse-tooth corn; of various colors, white, yellow, red or blue; and of all sizes, from that growing 12 feet high and bearing ears 12 to 16 inches long and having 16 to 24 rows of kernels, to the little dwarf sorts which mature an ear an inch to two inches long and grow 8 to 18 inches in height. Many have seen those varieties each kernel of which has a separate husk, and the rice corn with its sharp pointed, obliquely set kernels. In fact, the varieties of this species (*Zea Mays*) may be said to be almost endless.

We have selected a few tolerably well known kinds from among an assortment of fifteen varieties, laid upon our table by J. M. Thorburn & Co., and have had them engraved.

For use upon the table, boiled green, the different kinds of wrinkled, or sweet corn, deserve the preference. Most are rather late in coming to maturity, though maturing sufficiently for cooking in 60 to 80 days. Fig. 1 represents the little "Narragansett" corn, 8 to 10-rowed, red cobbed, one of the earliest, sweet, and excellent. This, and a small, longer eared, but smaller kerneled 8-rowed sweet corn, called "Extra Early," follow a poor, watery white corn, known as "Canada," and by other names. The Canada comes first to market, and on this account alone sells high. Fig. 3 is an excellent variety, rather late in maturing, called "R. I. Asylum," from its origin or use on the grounds of that institution. The ears are 8 to 10-rowed, of good size, and very sweet. The habit is about the medium size for sweet corn. It affords an abundant forage, and is prolific. The Stowell's Evergreen resembles this in the ears, which are shorter; it matures late, is sweet and prolific, and the stalks remain green and succulent a long time. This is a very good variety for sowing to feed green to stock, and is esteemed for the table. There is a black or dark blue variety of sweet corn, called "Mexican," which is very sweet, prolific and only objectionable on account of its color. Its habit is dwarf, and it bears 2 to 5 ears close to the ground. Specimens on our table are from Mr. E. Williams, of New-Jersey. The large stalked, long eared kinds, are generally not so sweet as those of dwarfish habit. The flavor of the corn and its desirableness for the table depend not only upon its sweetness and flavor, but upon the thinness of the "hull" or skin of the kernel, and the ease with which it parts from the cob. There are two or three very large varieties highly esteemed, as the Mammoth 8-rowed Sweet, which is very good. To ensure a succession for the table from the earliest time possible to frost, plant well soaked seed in rich, well prepared soil, on the 1st, 10th and 20th of May, and subsequently once a week until the 4th of July.

Field Corn is a more important subject for the consideration of the farmer, but those who do not provide any other for boiling, deprive themselves of one of the most delicious table vegetables. Excellent portraits of several varieties are given above. We distinguish three prominent groups of field corn, whether they are classified by color, as *white*, *yellow* and *red*,—by texture, as *flint*, *dent*, which is half flinty, and *flour*, which has no flintiness,—or by the number of rows, as 8, 12, or 16-rowed; and these characteristics are entirely independent of each other. The early maturing northern kinds are all flinty and usually 8-rowed. One of the best is the 8-rowed *Canada*, a small, bright yellow variety, with an ear 7 to 9 inches long, and having a very small cob: 50 bushels to the acre is not an unusual yield.—Fig. 7 represents very well this variety, though taken for the *Rhode Island Premium*, a new sort, which has attained a good reputation of late years. This is of a dark yellowish red color, and originated in artificially crossing three kinds, the Canada, 8-rowed Yellow of New-England, and a blood-red variety of Rhode Island. It is of dwarf habit, needs planting very close, like the Canada (3ft. x 2ft.), and yields 80 to 100 bushels per acre under the *best* circumstances. The color only is objectionable for meal. The ears are small, but very close, well tipped out and firm, cobs very small. Like this in color, but larger, is *King Philip*, fig. 6. It is a good variety, and needs close planting. The common 8-rowed Yellow of New-England so much resembles this in the shape of the ear that fig. 6 might pass for it also. The name "Dutton" was originally applied to a very compact, small kerneled 12-rowed variety, which was very profitable and sure to mature, and made sweet, excellent meal. The name is now given in New-England and New-York to any 12-rowed yellow corn, some sorts of which are very good. There are varieties of white flint corn, semi-translucent, and of various good qualities, almost identical with the yellow kinds in shape of the ear. The Long Island White is 8 to 10-rowed, large eared, growing 8ft. high, and yielding abundant crops. The meal is very sweet.—Fig. 2 represents a New-Jersey variety of white flint, not very flinty, and having a small indentation in each kernel. It is of large size, not profitable, but esteemed for the whiteness and fineness of the meal. The kernels are very large. Similar in quality, but quite different in growth and character of ear, is the Ohio Yellow Dent, fig. 5, which represents very fairly the Western and Southern varieties of the *Horse-tooth* group, except that there is more flintiness than usual to the kernels, and they are neither so broad nor deeply indented as is common. These varieties are never 8-rowed, seldom 10, but usually have 16 to 20 rows. The kernels are long, narrow and angular, and usually rich in oil and farina. The plant is very large, requiring to be grown in hills 4 feet apart each way, yet the yield is 50 to 80 bushels per acre, and crops of nearly or quite 100 bushels per acre have been repeatedly recorded. No. 4 represents the Tuscarora, of which there several slightly differing kinds.

This variety grows 5 to 6 feet high, the ear is moderately large and 8-rowed, the kernels large, of a chalky whiteness, and very light and soft. They may almost be pulverized in the fingers. The meal, if bolted, can hardly be distinguished from fine wheaten flour by outward characteristics, and it is said to be used considerably to adulterate flour with. It is valued by some persons boiled green for the table, and though not sweet, is acceptable. These are a few of the great number of kinds in common cultivation, and our brief notes will serve as a guide to selection or change of varieties.

When to Plant Corn.

Field corn planted early in May has usually to be replanted once or twice. This makes much unnecessary labor, for that planted some weeks later, usually ripens at nearly the same time. If the seed does not rot in the ground, the poor little yellow blades are frost bitten, and their shriveled ends pine for the hot sun. Those plants that survive the chills and rains of May, are not so healthy, or well prepared to take advantage of the warm weather when it comes, as that planted in the proper season, which in the latitude of most of New-England, New-York and westward is after the middle of May in almost all seasons; and often it is not best to plant before the first of June. No fault is more surely repented of than too early planting of corn. If well soaked, and placed in a warm soil, corn is very soon above ground, and a few warm days place it beyond fear of harm from cutworms, white grub, wire worms or crows—whereas that planted early in the month must do battle with all these for several weeks, if it survive the dampness and the frosts.

Broom-Corn—Varieties and Cultivation.

This crop is one of growing importance and interest. There is a large demand for "brush" of first quality to make brooms for exportation, and this, in addition to the great home consumption of brooms manufactured from this plant, makes the market quite steady. The soil adapted to the most successful culture of Broom-corn is a warm, rather light loam. It should be quick, and rich in alkaline salts. A large amount of vegetable matter, either in the soil or in the manure, gives an undue tendency to make leaf and stalk. Yet the soil should be rich enough to cause a quick, vigorous growth. Hence the usual practice is to manure in the drill with horse, hog, or sheep manure well rotted, and apply ashes and plaster to the plants at the first hoeing. If the crop is backward, a similar application (ashes and plaster, either or both) at the last hoeing, or when the plants are nearly half grown, will be found beneficial.

There are two prominent varieties—the tall and the dwarf sorts—and most cultivators give decided preference to the dwarf. Besides, as the Chinese Sugar-cane, the Imphee, and the Dourah corn are only varieties of the same species (*Sorghum saccharatum*), these are liable to cross, and many inferior sorts, both of the Broom-corn and of the Sugar-cane occur. Seed from only the straightest, finest, and toughest brush should be saved for planting, and that which has grown at a distance from any Chinese sugar-cane, Imphee or Dourah. Prepare the land as for Indian corn; mark it off in rows 3 feet apart, and drop the seed either in drills, or in hills about 2 feet apart, using as many as 15 or 20 seeds to a hill. The time of sowing depends upon the exposure of the land to late spring frosts, as these seriously injure the crop. Broom-corn is usually planted just after corn planting. It is best to leave the ground so that the location of the hills or drills is well marked, for the young plants look so much like grass that a careless hand is likely to cut them up at the first hoeing, or run his cultivator into the row. The ground should be kept loose and well weeded, the cultivation being the same as that of Indian corn.

At the second hoeing or when the crop is no longer in danger of either frost or worms, the weakliest plants are pulled up so as to leave 6 to 10 stalks to the hill, or an equivalent to 10 or 12 stalks to 2 feet in the length of the row. There is usually a strong growth of suckers, especially with the dwarf kind; these it is best to pull, up to the time that the heads appear. When the seeds are full but still soft, the brush is harvested. This is done in several different ways. Either the whole crop is cut up, and the the heads subsequently cut off 4 inches below the brush, bundled and laid up to dry in such a way that they will remain straight, and may be protected from dews and showers; or the heads while in the milk are broken down several inches below the brush, and left hanging at such a hight that they may be conveniently cut off afterwards; or the tops of two contiguous rows are broken down lapping upon each other, which is called "tabling." The heads are thus supported, while they still further mature, and the stalks form a substantial table upon which to lay the brush to dry when it is cut off. The best brush is dried under cover; and to bring the best market price, it should be of a bright, greenish color, springy, tough and straight. When dry, the seed is usually removed by hand by drawing it through a hatchel made for the purpose; a horse power machine is also used.

Best Potatoes to Raise for Market.

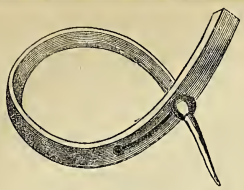
B. Stephens writes to the *American Agriculturist:* "Having been engaged in selling potatoes in New-York for the past eighteen years, I would state for the information of farmers, that in potatoes intended for this market, the following qualities are requisite: large size, white skin, white flesh, and to be dry and mealy when cooked. Such are sure to command ready sale and the highest prices, and all not having this character will have to be sold as second class or 'shipping potatoes.' Therefore it is folly for a farmer to use his ground for a poor crop, when the same labor and expense, with a proper selection of seed, in regard to the requirements of the market, would yield a larger crop of potatoes, which would meet with ready sale, and at larger prices, at no more expense of freight and selling. We have a great variety of new seedlings brought to notice every season by interested parties. In order to sell seed, they make great statements, as to quality and large yield (on paper), but when sent to market as a farm crop, they are found wanting, and die out to make room for something new the next season. The valuable varieties of potatoes and those that are in good demand, are those that have been originated by farmers, and their merits have brought them into general use. Such are the Blue Mercer, Dykeman, Peach Blow, Prince Albert, Jackson White, June, etc.; whereas of many fancy kinds, put before the farmers from year to year, by seed raisers and sellers, none are worthy of planting as a farm crop. The following are some of the well known kinds from which farmers can make selections, suitable to their soil, being sure of good average yield and having an article that is salable at all times.

For Early: Dykeman, June, Buckeye and Jackson White, maturing in the order here given—the Dykeman being the kind universally grown by the early truck raisers of Long Island and New-Jersey. For later, the Light Blue Mercers, Prince Albert, and Peach Blow. There is also a new variety, the White Peach Blow, originated and raised in Monmouth Co., N. J., which has come to market the past season, which bids fair to be a valuable potato and worthy of trial. It is a white skinned potato, with a pink eye, of good size, white fleshed, cooks dry and mealy, very much resembling the Buckeye in outward appearance, but is a late grower, and is said to yield equal to the common Peach Blow.

Field Beans—Culture and Variety.

There are three varieties of white field beans known to farmers and in the market. They go by different names in different localities. Burr designates them as the Blue Pod, Pea beau, and White Marrow. In New-York market they are called Medium, Caxton, and Marrowfat. The Blue Pod is the common "white bean" of New-England and New-York, and the Medium of Washington market. It is the earliest of the field beans, and particularly useful in filling out where corn and other crops have failed. The Pea, or Little White bean, is richer, smaller, more roundish, not quite so early, but producing equally good crops. Its small size is against it in market, though its beautiful white color is in its favor. In so indiscriminating a market as that of New-York, it sells lower than the first mentioned kind. The White Marrow, Marrowfat, White Egg, etc., is considerably larger than either of the foregoing. Burr makes the following statement in regard to the comparative size of these three sorts: of the Pea bean, 4400, of the Blue Pod, 2700, and of the White Marrow, 1200 will fill a quart. The Marrow is not quite so sure a crop in wet seasons, owing to its tendency to run; so that on a good soil too highly manured, or too rich in ammoniacal matter or vegetable mold, the plants make too much top and bear too little fruit. The soil best adapted to beans is a good loam or gravelly soil, which contains a considerable portion of soluble mineral ingredients, but not much vegetable and nitrogenous matter. The tilth should be good, not necessarily deep, and freedom from weeds is desirable. Unless there is danger of the crop running to vines, plant in drills two feet apart, and scatter the seed in the drill. The practice of planting in hills 2 feet apart each way, is good, especially for the Marrowfat. The planting should not be delayed after June 20th as a general thing, and then only the Blue Pod or common white field bean should be used.

The cultivation consists in keeping down the weeds and stirring the soil. This should, so far as practicable, be done by horse labor. When the plant turns yellow, and the pods begin to dry, they are pulled by the roots and stacked between stakes 4 to 6 feet high, driven 6 to 8 inches apart; pieces of wood or a few stones keep the bottom plants from the ground. Here they are allowed to dry thoroughly, and many of the unripe pods mature and dry quite well. The threshing is done either in the field or on the barn floor, and if well dried, the crop will be fit for market at once, or may be kept for almost any length of time in dry bins.



A New Bag-string.

"J. I. M.", Orange Co., N. Y., sends a specimen of a little time saving contrivance which looks as though it would work very well. It is a bag-string, made of stout leather, in the shape of a long, narrow wedge, about half an inch wide at the broad end, and gradually tapering to the other extremity. At 2½ inches from the wide end, a button hole is made by punching two holes about an inch apart, and connecting them by a slit. At 7 inches from the same end is placed a catch, which consists of a short, rounded cone of lead, or some white metal. The string is attached to the bag about 2 inches below the top by means of a rivet or stitch through its center. To fasten the string, put its small end through the slit and draw it until the catch passes through as shown in the figure. To untie it, give the large end a jerk and the catch is immediately loosened.

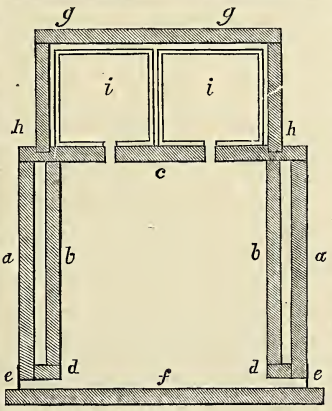
Waste Lands near Cities.

In the suburbs of many large cities in this country are tracts of land lying in open commons, and unused except as play grounds for children, with perhaps here and there a cow or a goat finding scanty pasturage. They have mostly been bought up by speculators, in anticipation of their being wanted for building purposes; former farm fences have been removed; in some instances streets are cut through, and they are kept awaiting purchasers. We know plots in the vicinity of New York and Brooklyn that have been left in this condition for ten to twenty years. They are yielding no returns to their owners, and the yearly taxes and accumulating interest on the cost in many instances far outweighs the rise in the market value of the property. We think at a moderate estimate there are enough of such plots lying unused in the vicinity of the two cities above named, to produce vegetables enough for 50,000 persons.

Now, here is an opportunity for wide-awake gardeners of either large or moderate means, to secure a good living and confer a positive benefit on community. The use of much of this land could be had from year to year at a comparatively small rental—less than one third of the interest on its estimated value. The facilities for obtaining necessary manure and help to work it are abundant in the adjoining cities, and the nearness to market, where every variety of fresh vegetables is in demand, gives a great advantage to the producer, over those at more distant points who have to pay heavily for freights or teaming expenses. It would not pay to invest in permanent improvements, or in raising fruits requiring several years to come into bearing; indeed, owing to the exposure to depredations from marauders who usually abound in cities, it would hardly be safe to attempt fruit culture, even though continued possession could be had of the grounds for a term of years. But annuals of every description, particularly vegetables that will not bear distant transportation, may be made very profitable. Some enterprising men of small means, particularly German gardeners have already improved such opportunities, and we know of several who are making a comfortable living and something over, by this means. It would be doing many a poor family a kindness to suggest this plan to them; there is room for hundreds, and the products of the land are all needed, and find a quick market.

A New Home-made Beehive.

The engraving represents the section of a beehive, made and used by M. S. Woodford of Erie Co., N. Y., who thus writes: "I propose to describe for the benefit of the readers of the *Agriculturist* a beehive that I make and have used for four years. First I make the four sides of a box, *b*, as recommended by Mr. Quinby, 12 inches inside each way. I then make another, *a*, fifteen inches inside each way, and one inch deeper than the first one. A top board, *c*, is made, large enough for the larger box, and rabbited back from the edge all around to receive the cap, *g*, made 13 inches inside. This top I nail to both boxes one within the other. The strips, *d*, are then nailed on the inside of the outer and on the lower end of the inner box. This closes up the space between the two, and makes a hive warm in winter and cool in summer. The bees will not come out of such a hive in winter, unless the weather is warm enough to allow them to do so without harm. To prevent millers depositing their eggs under the edge of a hive I take a strip of hoop iron, *e*, 1½ inches wide, and nail around the bottom, forming a band. This may be readily done by any one not a mechanic, by cutting it in four pieces, one to fit each side and make close joints at the corners, punching holes and filing the edge straight. Nail them on the hive so that the iron will project about half



HOME-MADE BEEHIVE.

an inch below. The edge of iron will rest on the bottom board, *f*, leaving a half inch space between the bottom of the hive and the board, giving the bees a chance to operate on the board out to the iron. To give the bees an entrance, a notch is cut in the front piece of iron ⅜ of an inch deep and ¾ of an inch long. I also give them another entrance, three and a half inches above the alighting board, by inserting a plug which reaches through the two boxes with a half inch hole in the center. Some may think this hive too expensive, but from four years experience I have found that it pays.

Early Sheep Shearing—Washing.

No real lover of his flock drives his sheep to the washing without a feeling akin to remorse. He would not do it were it not that he believes that the market demands wool washed on the back. Though it is true that washed wools sell more readily, yet in times like these where any and all wools are quickly taken up, an opportunity for reform is offered which ought not to be overlooked. Sheep which are to be washed ought not to be sheared before settled warm weather. In many seasons this will not come before the last of June. They are then in much less danger of taking cold and receiving permanent injury. They ought to be washed only in water which is so warm that the washers do not find it uncomfortable to stand in it with the sheep. The shock to the flock, of the immersion in cold water and being subsequently exposed to raw winds—followed by being reduced to a state of absolute nakedness, is sufficient cause to account for "snuffles," and prevalent lung difficulties. The rule in regard to washing is to wash as little as possible, but even this involves the necessity of thoroughly wetting the entire fleece. It is a great object to have the sheep sheared as early as they can be, and fully a month may be gained if they are shorn without washing. The fleece starts better, the sheep seem actually benefitted, weakly ones often brighten up and do well, and all are in much better condition to bear the autumnal storms which often come before the flocks are sufficiently clad to bear the change well. Contagious diseases are not unfrequently communicated by farmers using the same washing pens with their neighbors, which may be unavoidable.

If the sheep be shorn unwashed, particular care should be taken to have them all well tagged, and all dirt removed which is not too thoroughly incorporated with the fleece. The discount of one-third in price for unwashed wool is not fair, yet the farmer may well submit to it for the advantage his flock gains, if it be a valuable one, knowing that like other abuses it will be corrected by time. Sheep should be shorn on smooth, clean floors, by careful, humane, quick, experienced men. The cleanliness of the floor, the removal of dung and straw brought in upon the feet, are important.

How to Designate Lambs after Weaning—No "Uncouth Provincialisms."

Mr. Randall, who is excellent authority on sheep, suggests the introduction of the word *teg*, as used in some parts of Great Britain to designate lambs between weaning and shearing, so that they may not be confounded with the young stock between the time of the birth of these and shearing of the last year's lambs. An unnecessary word is a nuisance, especially if it means nothing of itself. American farmers the country over, so far as we know, distinguish their lambs as "sucking" or "suckling lambs," and "old lambs," and this is distinction enough, and sounds to us much better than "ram teg," "ewe teg," "wether teg," or even *teg* alone. Besides, farmers not seeing the necessity will not adopt it. Words that are really needed are suggested by the necessity and come of themselves, or are adopted without argument.

LEARNING teaches youth temperance, affords comfort to old age, gives riches and contentment to the poor, and is an ornament to the rich.

Fig. 1.—COLLINS' HORIZONTAL HOP YARD.

Sundry Notes on the Cultivation of Hops.

The staminate or barren flowers, and the pistillate or fertile flowers of the hop are borne upon distinct plants, and cultivators distinguish them by the terms male and female. The two plants are only to be recognized with certainty when in flower. The staminate or male flowers, are in loose clusters springing from the axils of the leaves, as in fig. 2, which represents the upper portion of a flowering branch. A separate flower, consisting of a calyx of 5 sepals and as many erect stamens, is also shown. The pistillate flowers, which are borne in little cone-like clusters, are very simple in structure, and consist of a scale-like calyx, with the pistil at its base. After fertilization, the clusters of the pistillate flowers increase very much in size and become hops (fig. 3), which consist mainly of the enlarged scales of the calyx, each with a little nut at the base. Near the lower part of the scales are numerous oblong, resinous grains, called *lupulin*. One of these, very much magnified, is shown at the lower right hand corner of fig. 3. It is upon the lupulin that the valuable properties of hops mainly depend; hence in the collection and management of them, care should

Fig. 2.—MALE HOP-VINE.

be taken to lose as little as possible of this. Lupulin is often incorrectly spoken of as the pollen of the hops. This is a great mistake, as it appears only in the pistillate or female flowers, and long after they have been fertilized by the pollen of the staminate or male plants.

The hop growers of the central counties of New-York, though recognizing several varieties of the plant, some of which are indigenous, and others, as the "English cluster" and the "grape" are imported, have very indefinite preferences, and in most yards two or three kinds are found. Hops, like corn, grow on all varieties of soil, from swamp muck to gravel knolls, and any good corn land is suitable for them. On bottom lands near swamps or creeks, rust often injures the plant, but this is seldom damaging on the flats above the secondary banks, or at a distance from bodies of water or wet land. The Hop-yard should not be exposed to high winds, and so the proximity of forests or hills in the direction of the prevailing storms is favorable, but not essential. In preparing the ground, put it in good condition and plant corn, potatoes, beans or some similar hoed crop. Leave places for the hop hills 8 feet apart each way in the rows. It may be best to mark out the field for hops accurately, and plant the corn between, being guided by the marking. Set out the hops soon after planting the corn. According to the usual practice, the hop poles are not placed until the second year; but if the horizontal plan be used, it is best to set the poles or stakes the first year.

The hop has underground stems which start from the crown of the root, run horizontally a few feet, and coming to the surface form new plants. The hop yard is dressed in the spring, but not until after a growth of some inches has been made; the earth is then drawn away from about the crown, and these underground stems are removed. These are laid in heaps under cover, occasionally sprinkled, and will keep some weeks. All the growth which has been made is then cut back to prevent frost injuring it, and the second starting is considered more vigorous and fruitful. The *sets* are the underground stems cut in pieces 6 or 8 inches long, having at least two pairs of eyes. Four are set in each hill. A dibble is used to make the holes, if the ground be mellow, and the sets are buried with the tips about 2 inches below the surface. In hard stony ground they are planted much like potatoes, with a hoe. The sets from male and female plants are carefully kept separate as they can not be distinguished. Six hills of males to the acre are sufficient. In hop yards on the plan described below, the male hops are trained upon poles of the usual length which makes the distribution of the pollen sure and uniform. The plants are treated like corn or potatoes. If stakes are set, the hills are better protected and the extra fruit which will be produced upon them will pay for the trouble. Even that gathered the first year from the tops of the corn, if no stakes are used, is considerable.

At the first hoeing a one horse plow is used, subsequently a cultivator. In autumn, and when the vines wither, cut them up, house the stakes, and throw upon each hill a good forkful of dung, which answers both as mulch and manure.

When the usual hop poles are used, they are provided before the next spring. The supply comes from Canada, and they are worth 15 to 20 cents each. They are usually 18 to 24 feet long, straight and sound, and are set deeply and firmly in the ground, two to a hill, and inclined towards the south. This is a very heavy expense as there are 700 or more hills to an acre. Besides, in high winds many are often prostrated, to the no small damage of the crop, the poles, and the profits. The vines will climb to the tops of the poles, and the side shoots, whereon the hops are produced, swathe the poles and vines, crowding and pressing one another; they are much blown and whipped about in the winds, and are often broken off. To obviate these difficulties and to save expense, a system of high horizontal wires was introduced—the wires being supported at the ends of the field and by stays at intermediate points. The hops were trained upon strings pendent from the wires. Both these methods require the cutting up of the vine near the ground for gathering the fruit, and these wire yards are not unfrequently greatly injured by lightning striking them.

A plan has been invented and patented by Mr. F. W. Collins, of Morris, Otsego Co., N. Y., which obviates many difficulties heretofore encountered, and saves 75 per cent. of the expense

Fig. 3.—FEMALE HOP VINE.

of poles, etc. This is shown in the engraving, fig. 1. The poles or stakes are 9 feet long, about as large as bean poles, and are set 1 foot in the ground. The outside stakes are larger and set deeper to avoid the necessity of bracing them. Common "wool twine" is tied to the tops of the end poles, and looped about the tops of the others by a "half-hitch." *This is done on horseback* very easily and quickly. The cords run in four directions from each interior stake, at a hight of 8 feet. The spring treatment has been already described. When the vines begin to run, four strong shoots, one from each root, are trained upon the stake and tied with woolen ravelings, wet straw, or other soft string. The hop winds about perpendicular poles with the sun—that is, from left to right. At each hoeing all the other shoots are gathered in the hand, rolled into a mass without breaking them, laid upon the ground and covered with a clod or stone. They soon wither. If cut off, the plant would bleed. The four vines reach the top of

the stakes very soon, and then a man on horseback, or carrying a stool, goes from hill to hill, training each vine upon one of the 4 divergent cords. Those from opposite ends of the same cord will meet and pass—each will reach the next pole probably, and perhaps go beyond it, though it may be pinched off at the end. The joints on the horizontal part will be short, and the laterals very vigorous. Upon these side shoots all the fruit is produced, and it is the universal testimony so far as we have evidence, that much more is borne on the horizontal system than on the other, and that the hops are larger and finer. This is to be expected from the fact that the fruit branches hang swinging perfectly free, and thoroughly exposed to the sun. The ground is also warmed by the sun much better than when the tall poles are used.

The horizontal hop yard has received the attention of many of the best hop growers of Central New-York, and from what we can learn it possesses very important advantages. These are thus enumerated by the editor of the "Hop Growers Journal": Economy, earlier ripening, greater yield, less labor, less peril from wind, less shade, and avoidance of bleeding. The last specification is particularly noteworthy, for great damage is annually done to the roots by cutting off the vines near the ground at harvest, as is uniformly done in order to raise and remove the poles with their burden of fruit. Many vines are killed every year, and all are weakened and succumb after a few years; so that under the new treatment the longevity of the plant is greatly increased, as well as its health. In another article we may give a description of the methods of harvesting this crop, kiln drying, etc.

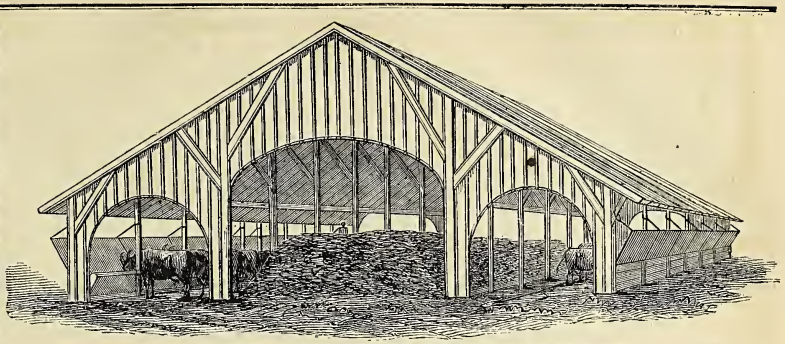


Fig. 2.—ELEVATION OF SUMMER FEEDING SHED—FOR DAIRY OF FIFTY COWS.

Soiling Cows on Dairy Farms.

The feeding of milch cattle in a way to save all their manure, and to enable them to make the most economical use of all that grows upon the land devoted to fodder crops, is accomplished by what is termed "*soiling*." This is seldom practised in this country, not from any lack of minute explanation of the system and of its advantages by the agricultural press, and not by reason of there existing any reasonable doubts whether it would succeed in this country. It has been successfully practised by farmers in many different localities. Nevertheless few farmers can be brought to believe that the benefits are so great as they really are, and they seem to feel as if they could not spare the labor required to take care of the stock in stables. Besides, few farmers have buildings adapted to the purpose, and so centrally situated that the labor of hauling the fodder from the fields to the cattle is not a great bugbear. Soiling cows will pay, and may easily be done on many dairy farms. The advantages may be briefly enumerated, viz.:

1. The cows are kept in better condition, give more milk, are kinder, more docile, and hold out in milk longer, than if allowed to roam.

2. The interior fences of a farm may be entirely dispensed with; a large yard being provided for the cows to take exercise in for an hour or two in a cool part of each day.

3. The entire product of the land is secured and fed to the cows. None of the crop is spoiled by the droppings of animals, nor hurt by their tread, nor by being lain upon; nor is it stinted in its growth by close cropping during the heat of summer when it can least endure this.

4. Both the solid and liquid excrements of the animals are saved without loss, to be applied to the soil at the best season, and in the best form, according to the judgment of the farmer—an advantage which out-weighs all the others.

We do not propose to argue the question of expedieney. The advantages above stated are obvious facts, or any one may prove them such after having had sufficient trial to learn how to manage with reasonable economy. The question is, How to do this; at least, How to Begin. —Knowing that Mr. Donald G. Mitchell—the author of that very delightful and instructive book "My Farm of Edgewood," which we have taken occasion more than once to commend to our readers—had given much thought to this subject, we wrote him for permission to publish his plan for beginning a system of soiling on an old farm, which is detailed in the book above referred to. Instead of this, Mr. Mitchell writes:

"I send you a rough draft of the shed I had proposed to build, which would have been a cheap but substantial affair, and which as a manufactory of manure alone, would, I think, have paid for itself in three seasons. Were I to erect all buildings *de novo*, I would so arrange them as to make one feeding place serve for both seasons. But my old winter stables were neither centrally situated, nor were they so disposed as to admit of *an economic handling* of the corn fodder, or other green food which might be supplied. And *this last is a capital point*, when reckoning up the advantages of feeding a herd of twenty to fifty animals, two or three times a day, throughout the busy season. Green corn-fodder is bulky and heavy; every half mile of transport counts largely; and if the fodder be handled over two or three times for bestowal along the mangers of interior stabling, a great deal of labor is needlessly sacrificed.

"Again, my proposed summer-shed was not only central, but within easy 'hauling' distance of the muck bed, from which I counted upon a weekly supply for the accumulating manure heap. And yet again, this manure heap would be within easy carting distance of the fields to be tilled the following spring. A shelter for the manure, under the conditions supposed, I should consider quite as important as a shelter for cattle. It is the habit with many, who grow corn-fodder to help out the August pasture, to scatter the newly cut stalks over the parched fields. Under these conditions, with a fiery sun, and a scorched turf, I believe that the loss of fertilizing qualities in the manure, is enormous. With the feeding shed, every particle of manure would count for its true value; the cattle would be protected from the sun, and with a sufficient head of water at command, and a few feet of hose, the utmost cleanliness might be secured and the temperature moderated at will. For success in soiling, particularly with corn-fodder, heavy manuring is essential; and the more rank and ammoniacal the dressings, the greater will be the succulence; and as the crop matures no seed, a reserve of mineral food will be left on deposit in the land for subsequent cereal crops.

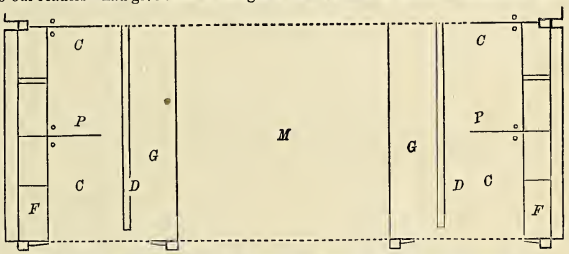


Fig. 2.—GROUND PLAN OF 16 FEET IN LENGTH OF THE FEEDING SHED.

REFERENCES.—*C.C.* Cattle floors; *D.D.* Drains for liquid manure; *F.F.* Feeding troughs; *G.G.* Gangways in rear of cattle; *M.* Manure heap; *P.P.* Two of the partitions between pairs of stalls.

I do not think you can urge soiling too strongly; and I am satisfied that in ten years time no good dairyman upon smooth lands within close neighborhood of towns, will ever turn his cows to pasture."

The Prospective Demand for Horses and Mules.—Hundreds of thousands of horses are used up and killed in the operations of war. The high and rising prices are a temptation to sell, but we counsel all farmers who can do so, not to sell their young mares, but breed from them, if they are fit for it. The demand for mules is equal to that for horses, and their consumption is quite as large. The mule, it is well known, is marketable after it is two years old, broken or unbroken, and no guarantee of soundness is required, while the horse is not salable until 4 to 5 years old, and must be sound and well broken, and will bring no more as a general thing than the mule.

Corn for Fodder

Every farmer who keeps cows, who makes hay and has less than he can use to advantage, or who on any account wishes to increase either his summer or winter fodder, ought to sow corn. The most preferable sorts for this purpose are the largest kinds of sweet corn, and next, the large Southern or Western varieties. The seed is usually soaked and sowed rather late in the season, broadcast. It is much better to sow in drills. The land should be in high condition, and a liberal dressing of good stable or other ammoniacal manure is advantageous. Turn light furrows with a one-horse plow, 3 feet apart; scatter the seed, so that about 10 kernels will fall in a foot. This is done very easily and rapidly. Cover with a sharp-toothed harrow, or a harrow turned bottom side up. It is no disadvantage if the seed be scattered considerably. After the corn comes up, cultivate at least twice; and after this, before cutting for curing, go through and pull any large weeds which may have started, as these may impart a bad flavor to the milk, when fed to cows.

The crop is not an exhausting one, although a weight of four tons of dried fodder is sometimes taken from an acre. No seed ripens, hence the draft upon the mineral ingredients of the soil is not great. This affords a most excellent green fodder during the heat of August and September, when grass often fails; and when dried, gives an article nearly if not fully equal to good meadow hay, especially as fodder for cows.

Have Cattle any Right in the Highway?

A correspondent writes to the *American Agriculturist*: "When the subject of excluding stock from pasturing in the streets came up for discussion in our Farmers' Club, it was claimed by certain trespassers that the roadway belongs to the town or county, and that therefore all the inhabitants have a right to feed their cattle in them. But it was shrewdly replied to this, that if so, then the town or county must make half of the fences on the lines, and the people must be perpetually taxed for the purpose. At this, the trespassers and their friends shrugged their shoulders. Moreover, the Chairman, being well versed in the law, rose up and said, 'The common law of England, (which is also our law,) settles this matter very justly and plainly when it says: 'The king himself has no right to the highway, except for purposes of travel and repairs; also, that the trees and stones, except such as are needed for repairs, with all other minerals, and the grass, belong to him through whose land the highway passes.' Here the matter ended for that evening. But still the nuisance of street cattle is not yet abated with us."

How to Choose a Cow.

There is always some risk in buying a cow, of whose previous character and history we know nothing, for there are no infallible signs of excellence. A rough, scrawny, coarse, ill-shapen cow is often a noble milker. Yet there are a few points generally agreed upon by experienced farmers, which it is well to consider before purchasing. A small boned head and light horns are better than large. Long legs make too wide a gap betwixt udder and milk pail, and long-legged cows are seldom quiet feeders, but wander about too much. A slender rather than a thick neck, a straight back, wide ribs and broad brisket, are to be sought for. The body of the cow should be large in proportion to head, neck, and legs, though not excessively large; and the hind quarters if large out of proportion indicate good milking qualities. Medium sized cows, all things considered, prove the best milkers for the amount of feed they consume. The color of the hair has probably nothing to do with the milking qualities, and good looks should be regarded but little in purchasing dairy animals. As to the color of the skin, a bright yellow, approaching that of gold coins, creamy color within the ears—this and good rich milk are very apt to go together; and withal a soft flexible hide, loose over the ribs and rump, is also to be sought. The udder should be large, soft, and full of veins, which ramify over it, with full-sized milk veins stretching forward along the belly, and the teats be large and not crowded together. Test the cow's disposition and inquire about it. Irritable and nervous cows are unpleasant to handle, and almost always scanty milkers. Something can be ascertained from the looks and motions. Large, mild eyes, easy quiet motions when driven, and gentleness when handled, indicate good nature. What the butchers term "good handling" is an important quality in a milch cow, for it indicates not only good milking properties, but easy fattening, when service in the dairy is over.

Irrigation with Sewerage Water.

Few of our farmers appreciate the value of liquid manure. The occasionally published results of the use of sewerage water for this purpose, are opening the eyes of others to its importance. This is one of the ways in which the city may pay the immense debt it owes the country. Near Edinburgh, Scotland, certain parties wishing to turn an honest penny, have cut dykes by which they can flood the land at pleasure with this sewerage water from the town. An American farmer traveling in England, writes of one particular farm as follows: "These fields, which were formerly barren wastes, merely the clean, dry sands thrown up by the sea in former times, have been so arranged that they may be flooded by this stream. The expense of the operation was great—about $100 per acre—and the annual cost of flooding is also four or five dollars to the acre beside; but the crops of hay are so frequent and enormous, (ten cuttings being made in a season,) that some parts of the meadow rent for $100 a year per acre, and none less than $75 dollars!" Prof. Johnston estimates the fertilizing value per annum, of the sewerage of a town of one thousand inhabitants, as equal to a quantity of guano which would cost thirteen hundred dollars.

We should very much like to see the waste water of our cities turned to some good account; but throughout the country, much might be realized by turning streams, at suitable times, over meadows and pastures. Everybody knows how rich our bottom lands become from the annual floods of the creeks and rivers which run through them. Why may not other lands be fertilized by dirty water on purpose? For instance, when a farm lies on a gentle slope, even a small brook can be made to do a great deal of service. If the stream comes in from the hill above, cut a channel for it, skirting the upper sides of the farm, and carry it along on the upper line as far as possible. At suitable intervals, dig out small channels, on the lower side of the stream, through which the water can be let on to the fields at will, (gates having been made at the openings). There may be a series of meadows flooded from the same source. Those who have tried a plan like this, say that a single year's flooding will increase the growth of grass equal to a top-dressing of thirty loads of dung. The muddiest streams are best, as they carry suspended a good deal of the fertile matter of the land through which they have flowed. We all know that wherever road-washings can be brought in, they are found very enriching. Yet clear water is beneficial, simply as water, and because it holds valuable substances in solution.

Home-Made Poudrette.

Mr. John Marston, Bucks Co., Pa., who has been familiar with the manufacture of poudrette on a large scale for many years, prepares it for his own use in the following manner: His vault is built of stone, 8 by 4 feet square and four feet deep, the bottom laid in stone and the whole cemented over. The privy is 4 by 3½ feet; leaving 4½ feet of the vault outside of the house. This portion is covered by two slanting doors placed so as to shed rain. Within these doors is placed a heap of fine coal ashes and a shovel. The coal ashes can be thrown over the droppings every few days with but very little trouble. Mr. M. finds the coal ashes to act as an excellent absorbent, and he prefers them for this purpose to any kind of earth.

A Prairie Farmer Advocates Shallow Breaking.

A farmer of Christian Co., Ill., writes, objecting to the letter of J. Weldon, on page 74, March No. of the *American Agriculturist*, not because it is not true, but lest farmers who may be thinking of moving out upon the prairies might be scared. He says Mr. Welden "makes it appear as though a man must bring team enough to break the sod a foot deep." This is a wrong inference, for our correspondent expressly advised to have neighbors put their teams together for this work. The advantages enumerated by him were, it will be remembered: getting the ground into good tilth at once; securing heavy crops of corn (70 to 80 bushels to the acre), and a lasting advantage to the land. Let us contrast these with the advantages of using a light team and plowing as shallow as is possible or convenient. There is a saving of labor, so large a team not being needed; securing more quickly the rotting of the sod, if the plowing be done at the right season; and the ability to do more breaking during the season adapted to breaking, (which is no advantage, because the breaking may be done at any season if it be 8 inches to a foot deep.) The benefits of heavy crops and lasting good to the land, ought not to be lost sight of even by the pioneer whose only reliance is one pair of oxen and a horse to do his work. Such a man, if he be a reader of the *Agriculturist*, goes upon his prairie farm with the ideas of both of these pioneers. He knows that if he can break 8 to 12 inches deep he is nearly sure of a first rate crop of corn. He knows that with his own team he can only break very shallow, and that the crop of sod corn got from the land will hardly pay for sowing and gathering. He knows that during the early part of summer all he can break shallow may be sowed to wheat in the fall or spring, and that the soil may be subsequently deepened, without using such a heavy team as is necessary in breaking deep.

So he borrows teams enough, if he can, to break 5 or 10 acres for corn as deep as he can, and then continues his shallow breaking for wheat with his own team. Our correspondent gives his last year's experience, as follows:

"I moved to a raw prairie farm last spring, and with a team of three small horses and a 12-inch Moline plow, broke eighty acres between the 6th of May and the 1st of July, and planted and cultivated twelve acres of corn besides, on old ground, (for it won't do to depend on sod corn). I sowed wheat on the new ground last September without replowing, and it looks well now, March 8th. The *best* time to break prairie, is from the middle of May to the first of July, though it will *do* from the first of May to the middle of July. If it is broken before the first of May, it won't kill all the grass, and if broken after the middle of July, the grass will be killed dead enough, but it will not rot enough that summer to be in good condition the next spring. The breaking should be done as shallow as the plow will run, because one of the main objects in breaking is *speed*, for a man wants to get as much done as possible while the season lasts;—another reason is, that sod which is broken thin, will dry out and die quicker, and consequently rot sooner, than when it is broken deep."

FENCES FOR PRAIRIE LANDS.—At a recent meeting of the Topeka (Kansas) Farmers' Club, the subject of fences for the prairie was discussed, at which there appeared to be a preponderance of opinion in favor of live hedges of Osage Orange, or other suitable plants. The White Willow was well spoken of, although it was stated that great impositions are being practised by dealers selling the common willow instead of the genuine article. One gentleman advocated stone walls as a protection against the sweeping fires which sometimes devastate that region: this method, however, would be practicable only in favored localities, and the burnings will cease as the settlements advance.

Hints from the Markets for Cultivators.

Every farmer who sends produce to New-York, and who at any time visits this city, may spend several hours profitably in passing through the general markets, and the commission houses where farm products are received and disposed of to dealers. The first impression will probably be of surprise at the magnitude of the business done. Ships, sloops, steamboats, barges and railroad cars daily deposit at the receiving depots the yield of thousands of acres. Washington Market, the principal center of trade in slaughtered meats and vegetables for the daily consumption of the city, is inundated with a flood of eatables of every description, from mammoth oxen to mushrooms, and to the inexperienced it appears that such a vast accumulation can never find purchasers. But a few hours will see the whole stock disposed of and distributed through retailers to the kitchens of Manhattan Island, Brooklyn, Jersey City, and the surrounding suburbs. Every substance fit for food, and much that is unfit, will surely sell at some price—the best to the wealthy, the inferior to those who must consult their pockets before their palates. Upon inquiry it will be found that but a very small proportion of the articles offered, are *first class*, that these command the readiest sale, and at prices in much greater ratio to cost of production than can be had for produce of common quality. Premium beef, costing little if any more to produce than that half-fattened, is sought for at 25 cts. per lb. retail, while the poorer grades bring only 12 to 18 cts. Extra apples, pears, peaches, melons, etc., raised at perhaps 10 per cent. more of labor and expense, command 50 to 100 per cent. more in price. Butter neatly made, well worked, and put up in nice packages, (the extra pains costing the producer not 5 per cent. more than the ill-looking but powerfully strong specimen from a neighboring dairy) will readily bring 25 to 30 per cent. better returns; and so on through the whole list of table supplies. A farmer with his eyes open will take a hint here and improve on it this very year, and find that with less land and less capital he can make more money by attention to *quality* rather than *quantity*.

Another noteworthy feature observable in the market is the necessity for system. Every wholesaler is receiving produce from hundreds of different parties. As the largest transactions are on commission, he must be prepared to render to each man the returns for his own particular lot, or his business will soon suffer. Nobody will be satisfied to receive an average price when he knows his own goods are above average quality. Now how *can* the dealer keep such matters straight unless the packages sent to him are properly marked? Men in the business assure us that almost every day boxes and barrels come to hand simply directed to themselves, with no accompanying note of their contents, and no marks by which to know where they came from. Perhaps after waiting a few days to ascertain something definite, the consignment deteriorates in value, or there is a decline in the market, and the goods are sold to the best advantage possible; then perhaps a letter of directions comes to hand, and after that, when returns have been made, another note is received, filled with complaints and wholesale charges of dishonesty against all New York dealers, and the rest of mankind. *Moral* on this head: Before you are ready to open an account with a commission merchant, write to him for specific directions, just how he wishes to have goods forwarded, how marked, etc.; then follow his plan, and he may be justly held responsible for any neglect. We are glad to believe that the well established houses engaged in such business here, are anxious to do the fair thing; let farmers do right by themselves.

The Shape of Carriage Wheels.

An expression in an article condensed from the Coach-Maker's Magazine in our February number, has been construed as objecting to setting the spokes so that the outer side of wheels shall be "dishing"—whereas it was simply a demonstration of the fact that the rims or tires ought not to be "a narrow section of a cone." This has led to several communications in regard to the necessity of having the spokes set outward, and not perpendicular to the rim. Mr. S. Edwards Todd, writes to the *American Agriculturist*, proposing and answering the following question:

"WHY ARE CARRIAGE WHEELS MADE DISHING?"

"Many farmers and many good mechanics ask *why carriage wheels are made dishing?* Wheels are made dishing that they may endure the greatest strain under all ordinary circumstances, where great strength of wheels is very essential; and also, for the purpose of making small spokes endure as much strain as large and heavier ones would, were the wheel not made dishing. If a wheel were always to bear a load on a track level from side to side, the *strongest possible form* that a wheel could receive, would be, what we term "straight"—not dishing. But, since carriages must bear loads along slopes and sideling tracks (and must make sudden turns,) as well as on level roads, the wheels must be made a little dishing. Let us suppose a straight wheel placed resting on one end of the hub, and heavy weights resting on the rim, the spokes would be easily broken at the hub. But, if a dishing wheel of the same strength of timber be placed resting on the large end of the hub, it would obviously sustain a very much heavier weight without injury. Now, when a wheel of a carriage drops into a rut or hole, or when the carriage is rolling along a steep slope, the greatest weight, as well as the greatest strain, will fall upon those wheels that are in the lowest position. If they are made dishing, the spokes will stand in a *bracing position*, and those wheels will endure a great strain; and, unless the tire should burst—as there is a great strain in that direction—the wheel will sustain no injury, although the strain might be sufficient to crush a straight wheel almost instantaneously, when in that position."

Experience in Making up a Club.

Our readers are aware that we seldom publish letters in praise of this journal, though thousands are received yearly. All of them, however, are appreciated, and they stimulate to continued endeavor to deserve such favors. The following from an old correspondent "Mrs. M. J. S.," Carroll Co., Ill., contains suggestions widely applicable—: "'I always dread going out to make up my newspaper and magazine clubs,' said a friend the other day. 'People treat me' he continued, 'as if I had come to beg of them, and dole out the money as if it was in charity. Now and then when I meet with an unusually tough case, where there is no paper in the house, and half a dozen youngsters growing up, and the man no reader, I feel like losing patience and saying to him, 'my heathenish friend, do you know that I'm come to do you a good turn, to set your brain half a century ahead of its present quarters? The papers can live without you, but you can't live without them. You exist 'tis true, but a reading man lives more in a month than you do in a year. Do you want to keep your children at the foot of the ladder? to make them 'hewers of wood and drawers of water for others? then keep reading from them and you'll generally accomplish it.' I have sometimes thought that the *Agriculturist* was doing a real missionary work in offering inducements to such people, if only in developing their taste for the beautiful in pictures and flowers. They can't realize what *good reading* means just yet, but they can appreciate good strawberries and pears, fine varieties of cereals and vegetables. Then, perhaps, they have a little pet daughter who is fond of flowers and can be gratified at small expense. In the mean time, the paper introduced into the family, silently works itself into favor. The wife wants the household hints, the children the pictures and puzzles, and before the man is aware he finds himself picking up the paper of an evening to read some article or story about which all the rest of the family have been talking at dinner. A physician (a very near relation) told me that he has been up all night with patients in families where there wasn't as much as an old Almanac to be found in the way of reading, in the house. Tell me, isn't it a missionary work to *tempt* those people into reading by the offer of premiums, etc. ?"

GROUP OF ELK.—*Sketched from Nature and engraved for the American Agriculturist.*

We have in America several interesting and remarkable animals of the Deer kind. The largest among them is the *Moose*, or American Elk of the books, which is as large as a horse, having a head of great size, with long upper lip, and broad and immensely heavy horns, a short, thick neck and very long coarse legs. It is a water animal almost, feeding upon lily-pads and the succulent vegetation of the swampy forests of the northern part of the United States and British possessions. Next in size to the moose is the *Wapiti*, commonly but incorrectly called *Elk*—the Stag of America (*Cervus Canadensis*), represented in the above engraving. This beautiful animal closely resembles the stag of Europe, is graceful and stately, bearing powerful antlers which often weigh 25 to 30 pounds, and having many more branches than are represented in the engraving. The horns frequently spread from 4 to 5 feet, and in size they considerably exceed those of the European stag. The prevailing color is greyish in winter, and in summer tawny, of various shades—the ears and front of legs blackish—and there is a large yellowish white spot upon the rump surrounding the short white tail. The hair on the neck of the male below the throat, over a broad space, is long, very dark and tipped with red. This noble animal once common over the northern part of this country, is now seldom found except in scattered families in Maine, Michigan in the lake Superior region, and a few in the Adirondacks, and these are fast disappearing. In the Rocky Mountains and at the head waters of the Missouri and Yellowstone they abound, usually running in family herds of 6 to 12 individuals. The flesh is esteemed, but it is not so delicate as that of the common deer (*Cervus Virginianus*). It feeds upon a variety of herbage, and the twigs of shrubs and trees. It is not fastidious in its tastes and will get a good living in any forest or low woods. It is easily domesticated, and readily eats the same feed as farm cattle. The hinds become exceedingly gentle, and are handled as easily as cows; but the stags, though comparatively gentle during a part of the year, are wild and even dangerous during the autumn. The hinds go 8 months with young, which are dropped usually during the month of May.

The engraving which we give represents a group of elk (properly called Wapiti), of which a large number are now stabled in this city preparatory to being shipped to Italy. They belong to Victor Emanuel, King of Italy, and have been collected by his relative, Count Castiglione, who has been for some time in this country. Several of the finest were raised in a condition of domestication by Mr. Lorenzo Stratton of Cattaraugus County, N. Y., who has bred them for several years with great success. Mr. S. states that he can raise elk for the New York market cheaper than he can beef. Harnessed, they make a pretty fancy team, but he does not value them as draft animals. We understand the number of animals of this kind which it is intended to transport to Italy will reach 150. They will make a fine herd, and a noble addition to the extensive "preserves" of the King.

Gardening for Ladies.—An excellent system for gardening for ladies: Make up your beds early in the morning; sow buttons on your husband's shirts; do not rake up any grievances; protect the young and tender branches of your family; plant a smile of good temper in your face; and carefully root out all angry feelings, and then you may expect a crop of happiness.

Walks and Paths.

A good walk, one which is dry in wet, and firm in dry weather, one which will not "track" into the house, and which will not allow weeds to grow in it, is something very desirable to every one who lives anywhere except in paved streets. There is no difficulty in making walks to answer all these conditions, if the materials are readily obtainable. Most perfect specimens of walks may be seen in the Central Park, in the city of New York, where abundant means are at hand. An excavation of a foot or more in depth is first made, then a foundation of coarse stones is laid down, this is covered with several inches of stone broken by machinery to about the size of a walnut, and over this a layer of gravel. Where *good* gravel can be obtained, there is perhaps no better material for a walk. Three or four inches laid upon a proper foundation of stones or brick rubbish, and well rolled, will make an excellent surface. Unfortunately all gravel will not pack, and loose gravel is worse than none at all. The next best thing to gravel is hard-coal ashes, which pack down with the aid of the roller into a firm smooth walk. A path neatly paved with small stones, though not so pleasant to walk upon, is the best that can be had in some places. Over-burnt bricks, such as have been too much heated for building purposes, may be made to serve a good purpose. In many parts of the West, plank is used, but it must be always in straight lines, and

has an artificial look which only the comfort will compensate for. Tan-bark makes a pleasant walk, and its color harmonizes well with the surrounding verdure. Even saw-dust may, on a pinch, be used for the same purpose. Grass walks are an abomination, as they are only passable during a part of the day. The foundation of walks may be made with the bottom concave or convex. The latter is preferable, as it allows the water to pass off at both edges. The surface of the walk ought to be rounded, but not too convex. A center elevation of 1 inch to every five feet of width is usually enough.

Growing Mushrooms.

Comparatively little attention is given to the culture of mushrooms in this country. Those who do grow them, meet with a ready sale for their crop, and large quantities are imported preserved in cans. Quite a number of fungi are palatable, but the mushroom, *Agaricus campestris*, is the only one cultivated to any extent. The eatable portion is the reproductive part, (equivalent to the flowers and fruit of other plants.) The plant itself consists of whitish threads, which, under favorable circumstances, run among dung or rich soil, and when the plant acquires sufficient strength it throws up the mushrooms which appear above the surface. These threads (botanically called *mycelium*) can be dried and retain their vitality for a long time; when put into a bed of warm dung they start into growth and increase very rapidly. A block of dung and earth containing an abundance of these threads is called "spawn," and by means of this mushrooms are propagated. Mr. Simpson Gordon, of Vanderbilt Avenue, Staten Island, whose fine specimens were noticed in last month's "Basket," has sent to the *Agriculturist* an account of his method of raising them. The beds may be made in a cellar, under the stage of a greenhouse, or under any shed. Mr. G. collects a sufficient quantity of stable manure, shakes out the greater part of the straw, and if the droppings are very wet, allows them to dry a little. The dung is then laid to form a bed about 10 inches thick, beating it down pretty firmly. Holes are then made in the surface of the bed some 6 inches apart, and a piece of spawn about the size of a hen's egg is put into each and slightly covered. The bed is then covered smoothly with earth from the pasture or garden to the depth of 1½ inches. The temperature of the

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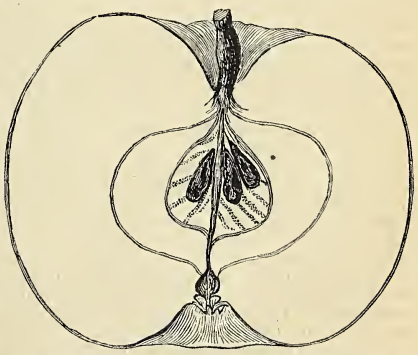
bed is tested from time to time by thrusting a stick into it: allow this to remain in the bed for a while, pull it out and the temperature can be ascertained by feeling of it. When the heat rises to about 75°, the bed should be cooled by making holes with a stick, about a foot apart, which are to be filled up again in two days. When the temperature of the bed declines to 55°, it should be covered with 2 or 3 inches of the litter shaken out from the manure. If the bed gets dry, remove the litter, and water thoroughly with luke warm water from a watering pot having a fine rose, and then cover it again. If all goes on well the mushrooms will show in 5 or 6 weeks. They appear at first as little round buttons, but rapidly increase in size, and usually reach their full development in 48 hours. Mr. Gordon keeps his beds in a bearing state for 6 months, and makes them at any time of the year that is most convenient. The illustration shows the mushroom in all stages, from the button to the fully developed specimen.

The Curculio or Plum Weevil.

From the frequency with which this insect is spoken of in the agricultural papers, and in pomological discussions, one would suppose that it was familiar enough to every one. Happily there are some places where this pest is as yet unknown, and from thence come requests that the *Agriculturist* would show what the curculio is, in order that it may be recognized upon its first appearance. Though the insect is popularly called 'curculio,' entomologists do not place it in the genus of that name, but they designate it as *Rhynchænus Nenuphar*. It is a small beetle, one-fifth of an inch, or less, in length. The engraving shows one much magnified, and one of the natural size. Its color is dark brown, having a white or yellowish band on its wing-covers with small spots of white, yellow, and black; the wing-covers are also marked by ridges and humps. One of the striking features of the insect, is its long curved proboscis or snout, which bears a pair of antennæ or feelers. This proboscis, when not in use, is kept bent up under its breast.—This weevil is chiefly known for its very injurious attacks upon the plum, it seeming to prefer that fruit and the nectarine to all other places in which to deposit its eggs, though when these are wanting it will avail itself of other fruits and soft vegetable substances. The enlarged insect in the engraving is shown engaged in making upon a young plum, also magnified, those crescent shaped marks which have gained for it the name of "little Turk." These marks are the incisions it makes, by means of its proboscis, to receive its eggs. Having made one of these incisions, the insect turns round and deposits an egg in it, crowds it down, and then goes to another fruit to repeat the operation. Three of these marks are shown in the engraving, but it rarely happens that more than one is made in each plum, and it is unusual for a single plum on a tree to escape the signature of the "Turk." The insect makes its appearance as soon as the fruit is set, and continues to work until the middle of July. The egg soon produces a worm or grub that eats its way towards the center of the fruit, which soon falls to the ground. The grub when grown, leaves the fruit and enters the earth, undergoes its transformation, and reappears in a few weeks as a perfect insect. Thus far the history of the insect is well established by observation; what becomes of the brood thus produced, and where they pass the winter are matters upon which there is a difference of opinion. By some it is thought that the insects hatched out in summer remain concealed under loose bark and in similar places, until the following spring; others hold that they deposit their eggs in the twigs of the pear and other trees, and that the grubs remain there during winter. There is a want of positive knowledge upon the subject. Besides the plum and nectarine, the cherry, apple, and the fruit of the wild thorn are attacked by it; and there is no doubt but it often selects the black knot upon the plum tree, the tender twigs of fruit trees, and the twigs and young fruit of the walnut, as places in which to deposit its eggs. It does its work with such thoroughness that in many localities it is impossible to ripen a single plum. When the insect is alarmed, it gathers up its legs, drops to the ground and feigns death. This peculiarity gives us the only effectual method of combating it, which is to jar the trees every morning and catch the insects upon a sheet and destroy them. All fallen fruit must be gathered and destroyed, or hogs should be turned into the orchard and allowed to consume it.



A Good Apple Little Known—The American Golden Pippin.

Specimens of this excellent apple were brought to us by W. S. Carpenter, Esq., from Westchester Co., N. Y., where it is known as the Westchester Golding. On referring to Downing's work it was found to be the same as his American Golden Pippin. It is supposed to have originated in the above named county and is little known elsewhere. Being unwilling that so good a fruit should be confined to a limited locality, we give an engraved outline and a few notes upon its quality with a view to bring it to the notice of fruit-growers elsewhere. The illustration is taken from an average specimen,

but it grows larger and sometimes is longer than this. The shape of the fruit, with its short thick stem and small closed calyx, are sufficiently seen in the engraving, and we add the following characters from Downing: "Skin, fine golden yellow, thinly sprinkled with dots, sometimes slightly netted with thin russet. Flesh yellowish, tender, juicy, almost melting, with a rich refreshing, vinous, aromatic flavor; core rather large. November to February."—This apple is highly valued by those who cultivate it, as a table fruit, for cooking, and as a good keeper. The tree does not come into bearing when young, but later it is very productive. With Mr. Carpenter it gives good crops every year. This is different from the English Golden Pippin grown in some parts of the country.

A Cheap Fruit Box.

Every raiser of fruit knows that producing the fruit is but one half the work, and that gathering and sending it to market is an equal task. Mr. C. W. Idell, a well-known commission merchant of Washington market, N. Y., gives us the plan of making a very cheap box for marketing fruit, which is adopted by most of his customers. He takes an ordinary starch box, which is 20 inches long, 14 inches wide, and 6 inches deep, removes the top, and nails in a wooden strip, 2 inches wide and ½ inch thick, extending across in the middle from side to side, inserting it so that the top or flat side of the strip comes up on a level with the edge of the box. This answers as a handle and also strengthens the box. A box of this size contains 16 quarts, and is very convenient for huckleberries, currants, cherries, etc. They are preferred by some, of only half the depth, and are made by nailing the cover upon the box and sawing it in two, putting the cross piece in as before. Boxes of this kind are packed in a skeleton case, containing twelve of the small boxes, and six of the large ones. Where ready made starch boxes can not be easily procured, suitable ones can be readily put together out of light stuff of the proper thickness.

Culture of Musk- and Watermelons.

New Jersey is famous for its musk- and watermelons, immense quantities being sent every season to the New York markets. "E. J. K.," of Bergen Co., in that State, gives the details of his practice in cultivating watermelons, from which we extract the following: "Our soil is a sandy loam with a sub-stratum of pure sand. In the early part of May the land receives a compost of muck and barn-yard manure at the rate of twenty-five loads to the acre, is then plowed, harrowed three or four times to pulverize it thoroughly, and then marked off so that the hills shall stand 8 feet apart, and exactly opposite to each other, so as to allow of the use of a horse cultivator. Excavations are then made of a depth of 4 to 6 inches, and a foot in diameter, into each of which is put one large forkful of manure or compost, which is thoroughly incorporated with the soil. The holes are then filled up with the earth that was taken from them, which raises the hills 3 or 4 inches higher than the surrounding soil. The seed is planted in the hills half an inch deep, and 8 or 10 to the hill. In about 8 days they will germinate, and the appearance of the plant may be greatly facilitated by gently loosening the earth around them with the finger. In three weeks from this time, they will have made two rough leaves, when all the plants but three should be pulled out. Should they be attacked by bugs, dust the plants in the morning, while the dew is on them, with wood-ashes or plaster and pepper. If attacked by worms, which eat the young stalks of the plant off near the earth, the only remedy is to search diligently until you find them; they are generally at the root of the plant. The plants should be hoed at least once a week and kept perfectly clean until they begin to put forth runners, when all cultivation should cease. When the runners have reached 4 feet in length, the ends are to be pinched off, and this should be continued throughout the season, to force the strength of the vines into the fruit. By pursuing this course the melons will be of superior excellence as regards size and quality. This system answers equally well for growing nutmeg and citron melons, squashes and cucumbers. . . .Mr. J. Van Riper, of the same County, and a very successful cultivator of muskmelons for the New-York market, sends a statement of his last year's crop. Early in April he plowed in manure and a dressing of salt hay, harrowed on May 2d, and planted on May 14th, manuring in the hill. From 3½ acres Mr. Van R. gathered 1000 barrels of melons, which brought $1608.00. Expenses of cultivation, sending to market, commission, etc., $560.50, leaving a profit of $1047.50.

Preserving Grapes.

Mr. F. J. Boving of Lancaster, Ohio, has been very successful in preserving grapes during the winter in the following manner: On a clear, dry day he gathers perfectly ripe and sound bunches and lays them carefully in stone jars holding one or two gallons each. The jars are then set in the ground in a trench deep enough to allow their tops to be 8 or 10 inches below the surface. Some boards are then laid over the jars, the trench filled up and the remaining earth ridged up over it. Grapes packed in this way keep perfectly well until the first of March, and he has some yet untouched to test the length of time they can be preserved. Mr. B. exhibited some of his grapes to an extensive grower of the fruit who offered to buy his secret, but he prefers to make it public through the *American Agriculturist*. It is well to make a note of this for reference and experiment next autumn.

The Effects of Cross Fertilization.

In the January *Agriculturist*, there was a short article on this subject which stated that there was some evidence to show that the character of one variety of the strawberry was affected by growing in the vicinity of other sorts. Hiram Walker Esq., of Washington Co., N. Y., who has practised grafting since 1818, writes, that according to his experience the same thing takes place with apples and other fruits, and he thinks the fact that some winter apples do not keep, is not due to their being grafted on stocks of early sorts, but to the impregnation of their flowers with the pollen from early varieties. We regret that we have not room to publish the article of Mr. W. in full, and can only give some of his statements in brief. He says he never knew any difficulty in the keeping of winter fruit, where the orchard was all of one kind, but that when early and late sorts were all together, late fruit was rendered early, and early fruit was made late from cross impregnation. He mentions a tree in Saratoga Co., which was in part grafted with a sweet variety, but the grafts bore sour apples for several years; the grafts of the sweet apple had been put into the lower limbs of a sour apple tree, and as long as the upper limbs of the original tree remained, the sweet grafts bore sour fruit, from the blossoms being impregnated by those on the limbs above them; when the natural limbs were removed then sweet apples were produced. Mr. W. mentions other instances of a similar character which have fallen under his observation. The subject is one not only of scientific interest, but of actual importance to all fruit growers. It is within the observation of every one that a variety of fruit is not the same, even in not widely separated localities. This difference is by some attributed to soil and exposure, by others to the character of the stock upon which the fruit is grafted, and now we have the influence of the pollen of neighboring sorts charged with being the disturbing the cause. Other observations on these points are needed.

Don't forget the Climbers.

In arranging for the adornment of the *grounds*, by which is meant anything from a park to a small front yard, a fair share of climbers should be introduced. They are useful to make screens to hide unpleasant objects, and are attractive by their own grace and beauty, whether grown upon trellises or pillars, or used to cover the supports to a verandah or porch. Even upon a lattice over the door, or grown directly upon the walls of a stone or brick house, they are always in good taste. It is not too late to put out most of the woody climbers, and we suggest the names of a few desirable ones. Of those cultivated for the beauty of their foliage alone, the Virginia Creeper, one of our native vines, stands pre-eminent. It is found all over the country, and is readily distinguished from any other woody vine by its shining *five parted* leaves. It bears transplanting well, grows rapidly, and attaches itself readily to wood, brick, or stone. It is sometimes incorrectly called American Woodbine, and Ivy. Its botanical name is *Ampelopsis quinquefolia*, and it belongs to the same family as the grape. The European Ivy is an evergreen, every way desirable where it will endure the climate. It does best on a northern or western exposure, and should be grown against a stone or brick wall.—*Celastrus scandens*, (the Waxwork or Climbing Bitter-sweet,) is a pleasing native vine, having inconspicuous flowers, but good foliage and showy fruit in autum; it is perfectly hardy and grows well wherever it has a chance to twine.—The Chinese Wistaria, (*Wistaria sinensis*,) is one of the finest of all climbers, producing large grape-like clusters of purplish flowers. It is perfectly hardy around New-York, but much further north it needs to be removed from the trellis and covered with earth.—Our native Virgin's Bower, (*Clematis Virginiana*,) is useful for its foliage, flowers, and fruit, and the European *Clematis Flammula*, has very fragrant flowers, and is fine for the pillars of a verandah.—The curious Dutchman's Pipe, (*Aristolochia Sipho*,) found wild west and south, has enormous leaves and most singular flowers.

The various Honeysuckles are all valuable, our native as well as the foreign.—*Lonicera Belgicum*, (the Striped or Dutch,) *L. Periclymenum*, (the English Woodbine,) and *L. Sinensis*, (the Chinese Honeysuckle,) are among the best of the foreign ones, and *L. sempervirens*, (the Scarlet-Trumpet,) and *L. flava*, (the Yellow Honeysuckle,) are the

best of our native species.—The common Trumpet-creeper, *Tecoma radicans* and *T. grandiflora*, a large flowered Asiatic species, are both valuable and showy. Even the common Hop-vine makes a dense and pleasant green.—Among the annuals none are more valuable than the different Morning-glories, some of the newer sorts of which are really splendid.—The Canary-bird Flower, *Tropœolum peregrinum*, is very curious and pretty for small trellises, and other Tropœolums or Nasturtiums, are very brilliant; these grow readily from seed.—*Maurandia Barclayana*, *Lophospermum scandens*, and *Cobea scandens*, are all fine, and may be grown from seeds in a hot-bed, or be had of the florists. In an enumeration of annual climbers, the Sweet Peas should not be omitted. They grow so readily, and are so beautiful and fragrant, that they are general favorites. Sow early, and again later for succession, and have a plenty of them to completely cover the brush upon which they are supported.

Flowers—What Annuals Shall I Plant?

This often asked question becomes each year more difficult to answer, as the Annual Catalognes come to us with their constantly expanding lists. If those who have had little experience with plants, look over the catalogues and make their selections from the descriptions there given, they will very often be disappointed. Flowers must have certain requisites to make them popular, and mere novelty will never satisfy the great mass of cultivators. The fact is that for people in general, not one fourth of the flowers of the seed lists are worth growing—not because they are not good of their kind, but because they are not of a kind which meets the popular idea of a flower. To be satisfactory, an annual must be a free bloomer, and last a long while in bloom; the flowers must be showy individually, or in the mass, and be of good color, or to compensate for a lack of these qualities, they must have a pleasing fragrance. A plant with a tall weedy growth, with here and there a showy flower of short duration, may be interesting and pretty, but will never be popular. The following list gives some of those which can be safely recommended for general culture: Sweet Alyssum; white flowers with honey-like fragrance; once sown will perpetuate itself like a weed. *Antirrhinum* or Snap-Dragon, slow, but satisfactory. *Asters;* indispensable for late summer and autumn. Many sorts are in the catalogues; Pœony-flowered, Ranunculus-flowered, and Giant Emperor, are good, as are many others. *Clarkias*; all pretty. *Convolvulus minor;* fine. *Dianthus* or Pinks; the Chinese sorts and *D. Heddewigii* are good. *Gilias;* small, but pretty when grown in masses, and the same may be said of those Gilias which in the catalognes are called *Leoptosiphons*. *Linum grandiflorum;* fair. *Martynia;* those with colored flowers are showy in a large garden, and the fruit is good for pickles. *Marigolds;* the bronze and striped sorts are good, when they come true from seed, which is not always. *Mignonette;* grown for fragrance only. *Nemophillas* or Love-grove; all are fine in a cool and shady place. *Pansy;* too well known to need comment. *Phlox Drummondii;* this is *the* showy annual; it gives the best effect in masses; all colors from deep scarlet to white. *Portulaccas;* good, especially the double; all colors. *Petunia;* nothing is finer than the best sorts of this. *Stock*—Ten-Weeks; grown for both beauty and fragrance. *Tropœolum* or Nasturtium; the dwarf sorts are very brilliant, yellow to deep scarlet and bronze. *Whitlavia;* fine blue, self-sowing. *Zinnia*; coarse in growth and foliage, but with large and showy flowers, the double ones are fine and in great variety of colors. *Candytuft;* white, crimson and purple sorts, are showy in the bed, and fine for bouquets; blooms all the better for cutting. These with some of the "everlasting flowers" noticed in the April *American Agriculturist*, will give a good selection of reliable sorts. The list does not include all the good things, nor is it intended to discourage those who wish from trying novelties, but merely as a guide to those who have no experience.

The Treatment of the Tuberose.

The bulbs are imported from the South of Europe, and are sold at the seed stores at moderate prices. The flowers have the most delightful fragrance, and are highly valued by the bouquet makers. Our season is not long enough for them to flower, if they are planted in ordinary garden soil, and frequent inquiries come to the *Agriculturist* as to the best way of blooming them. We have had fair success by making an excavation and putting in a half bushel or so of stable manure, covering this with a little earth and then planting the bulbs, about a half dozen in a cluster. A more sure way is to grow them in pots altogether. A six inch pot will do very well; it should have good drainage and a rich soil. Rand in his excellent little work on "Flowers for the Parlor and Garden," gives a method somewhat different from the one we have practised, and as it seems to be good, we give the substance of his directions. The pots have charcoal in the bottom for drainage, and over this is placed about four inches of fragments of old dry cow-dung. The pot is then filled with a compost of equal parts of sand, peat, loam, and old hot-bed manure, with a little charcoal dust. One bulb is put in each pot and just covered. The pots are then placed in a hot-bed having a covering of tan or sawdust in which to plunge them up to the rim. The foliage soon appears, and when it begins to look "spindling," water is given to dissolve the manure, and at the same time the compost is pressed compactly. When blossoms appear, the plants are removed to a partial shade. The flower stalks should be tied up to neat stakes.

Whatever mode of culture is practised, only sound bulbs should be taken; if any remains of a flower stalk are present, the bulb should be rejected. Remove all offsets at planting, and continue to remove them as they appear during the season, for they weaken the main stalk.

Try Some Sweet Corn.

This may seem uncalled-for advice to many, yet experience has shown us that a large number of farmers depend upon "roasting ears" from the field, for their supply of green corn. All corn in the milky state contains more or less sugar, which turns to starch as the corn ripens. The varieties known as sweet corn have an unusual amount of sugar, so much that it is never all converted into starch, and the grains present a shrivelled appearance unlike that of any other corn. It is nutritious and an excellent article of food in its season, and when dried, forms one of the luxuries of the table in winter. The difficulty of obtaining seed need be no reason why any one should be without this and other nice garden vegetables. Two cents will pay the postage of four ounces of seed to any part of the country, and the names of a number of reliable seedsmen are to be found among the advertisements in this paper. Sweet corn has run into a number of varieties distinguished by their time of maturity, size of ear and comparative sweetness. The earliest variety is the Extra Early Sugar, which has stalks only about three feet high, and short but very sweet ears. Darling's Early is next in time, and has larger ears of fair quality. Stowell's Evergreen is a late and very sweet sort; it is prolific, and has large kernels. It is excellent both for immediate use and for drying. Perhaps for two garden sorts Darling's Early and Stowell, will give the best satisfaction. The "suckers" which are abundant in some sorts ought not to be removed, as these secure a more perfect fertilization, and consequently well filled out ears. Well manured ground and frequent hoeing will hasten the maturity of the crop.

The Osage Orange from Cuttings.

The Osage Orange is readily propagated from pieces of the root, and nurserymen have multiplied it in this way by starting the cuttings in a propagating house with the aid of bottom heat. John Porter Esq., of Niagara Co., N. Y., writes to the *Agriculturist* that he succeeds perfectly well with root cuttings in the open ground. He cuts the roots into pieces about two or three inches long and plants them horizontally, where the hedge is to stand, covering the pieces entirely. He finds that he gets stronger plants than from seed, and that they are less liable to be thrown out by the frost. Those who have established hedges, can by pruning the roots get a supply of cuttings for increasing their stock of plants. As it is now impossible to get seeds, this plan seems to be well worth trying.

The Deciduous Cypress.

This, though a cone-bearer, is not an evergreen, but, like the Larch, drops its foliage every autumn. Where it will stand the winter, there is scarcely any tree which exceeds it in the beauty of its delicate feathery foliage. Though a native of Virginia and further south, it will endure a much more northern climate. We have seen it in Central Michigan, where it stood as a shrub, having a portion of the new growth killed back every winter. It is worthy of being introduced as an ornamental tree wherever the winter is not too severe. When the seed is sown in rich ground, the young plants make a rapid growth, and it is on this account that especial attention is called to it. In many parts of the West, nurserymen and cultivators generally experience a great difficulty in finding stakes suitable for their purposes. The Deciduous Cypress is just the thing to supply this want. The seed sown in good soil will in two years give strong, straight and durable stakes. The seed may be had of the large dealers, may be sown as directed in February, and will germinate the same year.

Non-Blooming Fuchsias.—These favorite house plants are frequently too severely taxed. If allowed to bloom continually for too long a period, their strength is exhausted, and at length they cease to flower. In such a case rest is required to restore them. In autumn place them in the cellar; water only enough to keep them alive. In spring prune off all side branches, and upon giving warmth and water, shoots will start from the stem and again produce flowers.

A Poisonous Weed—Stramonium.

The plant here figured is familiar enough to those who live near towns and villages, but it is comparatively unknown in the more newly settled parts of the country. We have more than once seen plants which have accidentally sprung up in the field or garden, cherished as something new and rare. The plant is the *Datura Stramonium* of botanists, and is known as Thorn Apple, Devil's Apple, Apple of Peru, Stink-weed and Jamestown-weed. The first three names refer to the fruit, the next to its odor, and the last, often corrupted into Jimson, is given to it from the fact that, in the early history of Virginia a number of soldiers were poisoned by eating the plant as "greens," at Jamestown, Va. It is a rank growing plant, from 2 to 5 feet high, with smooth, greenish, or sometimes, purple stems. Its coarse foliage, long, funnel-shaped flower and very prickly fruit, are so well represented in the engraving that they need no further description. The flowers are white, and in the variety with purple stems they are tinged with that color. The fruit or seed vessel, when ripe, splits into four parts, and allows the very numerous black, wrinkled, seeds to fall out. The plant is an annual, grows with great rapidity, and soon takes possession of the ground if left undisturbed. All parts of the plant are possessed of poisonous properties, and when taken into the system affect it in a similar manner with other narcotic poisons. Children are more liable to be poisoned by it than grown persons, as they are attracted by its showy flowers and are fond of sucking the sweet, honey-like secretion which they contain, and sometimes swallow the seeds. Great thirst, delirium, drowsiness and a remarkable enlargement of the pupil of the eye are among the symptoms of poisoning by Stramonium. In a case of poisoning an emetic should be given at once; mustard, which is always at hand, may be used for this purpose. As accounts come to us every year of the death of a number of children from this plant, for this reason, if for no other, it should be destroyed wherever it makes its appearance. Being an annual the plant may be readily exterminated by mowing.

Box Edging.—Prepare a bed in some half shaded spot, such as the north side of a fence. The soil should be light, moderately rich, and well worked to a spade's depth. Stretch a garden line along the whole length of the bed, and open a trench from four to six inches deep. Take cuttings from old plants, making them 5 or 6 inches long, and pull off the leaves from three quarters of the lower end. Set an inch and ½ apart and insert up to leaves; pack the soil firmly around them. If there is no shaded border, set up boards on the sunny sides of the rows.

The Barberry—An Ornamental Shrub.

(*Berberis vulgaris.*)

The New Englander, in removing to another portion of the country, misses the Barberry, which, although of European origin, is perfectly naturalized in the New England States, and makes itself quite common along the road sides and in the fence rows. It is a shrub of so much beauty at all seasons of the year, that it is more worthy of being introduced among our ornamental shrubs than many which have already a place there. When left to itself it forms a dense bush, throwing up a few suckers and having its trunk abundantly covered with small limbs; it grows from 5 to 8 feet high. When trained up to a single stem it makes a pretty little tree, and in England has been known to grow to the hight of 30 feet. The wood is bright yellow, and in some countries is used in tanning and dyeing; the leaves have bristly teeth upon their margins and are very acid. The stems are armed with spines, which singularly enough are leaves developed in an unusual manner. A new shoot has these spines in place of leaves, and very often a regular gradation from sharp spines into ordinary leaves may be traced, as shown in fig. 1. Leaf buds appear in the axils of these spines, and next season produce the proper leaves in short clusters. The flowers, of a fine yellow color, appear in June, in graceful hanging racemes, and are succeeded by clusters of

Fig. 1. SPINES.

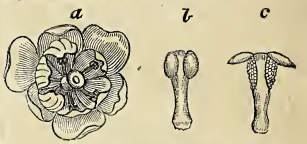
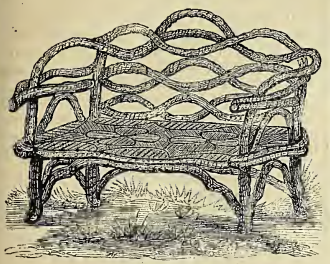


Fig. 2.—FLOWER AND STAMENS.

coral red berries. The fruit, flowers, and leaves, are shown in fig. 3, of the natural size; of course the flowers and fruit do not appear together, but they are so represented in the engraving for convenience. Whether in bloom or with its ripe fruit, the Barberry is a most pleasing shrub. The flowers present a peculiarity which is worth noticing. A single flower is shown at *a*, fig. 2, larger than the natural size. The stamens, which will be seen lying back against the petals, if touched near the base with a pin or other hard point, will immediately spring forward until they touch the pistil, and after remaining there for some time, move away again. This irritability is most manifest in warm weather. The anthers have an unusual contrivance for letting out the pollen, which in most other anthers is liberated from a slit running lengthwise of them. In the Barberry there are two little plates, or "trap doors," fastened at the top; these lift and allow the pollen to fall out. The stamens are shown in fig. 2, one, *b*, with the appendages closed, and the other, *c*, with them opened.—The fruit, which is very acid, is used for making preserves, syrup and pickles. From its rapid growth and thorny character, it has been recommended as a hedge plant, and judging from the natural hedges we have seen, it would no doubt be a serviceable plant. It is readily raised from seed, and may be propagated from suckers. There are several varieties;

Fig. 3.—BARBERRY—FULL SIZE.

the purple-leaved, yellow, white, and purple fruited; the sweet fruited, and the seedless. Some of the evergreen species, often called *Mahonias*, are among our finest shrubs. A foolish prejudice once attributed rust in wheat to the influence of the barberry—but this has passed away with other groundless superstitions.



A Rustic Seat.

A seat of some kind is needed in the grounds, whether they be extensive or of only moderate dimensions. What is called rustic-work, that is, limbs as nearly as possible in their natural form and condition, seems to harmonize with the surroundings better than anything of a more artificial character. The engraving is taken from a rustic settee presented by D. J. Young Esq., to the Cove (Oyster Bay) Ladies Soldiers' Aid Society, by whom it was sent to the Brooklyn Sanitary Fair, where it was purchased by the Proprietor of the *Agriculturist*. It appears to be made of the wood of the Laurel (*Kalmia latifolia*), and a great deal of ingenuity is displayed in the selection of the crooked limbs and fitting them together. The bottom, which is not shown very distinctly, is curiously inlaid with half round pieces, forming a sort of mosaic work. One who has a fair share of mechanical skill, can readily make work of this kiud, and find pleasant occupation for stormy days. The woods of the Laurel and Red Cedar are the kinds most suitable for such work.—This seat will be kept at the *Agriculturist* Office a few weeks, for the inspection of any wishiug to construct anything similar, after which it will be taken to the Proprietor's place in Flushing.

THE HOUSEHOLD.

Pests of the Household.

Flies, fleas, roaches, bugs, ants, and moths! Can more annoying pests be named? "What are they made for?" exclaims the vexed housekeeper after "shooing," or hunting, or poisoning, as the case may demand, to expel the unwelcome intruders. For the flies, roaches, and ants, a palliatory word may be said. They are most useful scavengers. They dispose of a great amount of waste matter which would otherwise become offensive and in some cases give rise to malaria and disease. Fleas and bugs may be sent as a scourge to keep lazy people lively, or as one suggests, to impel those to scratch themselves who will do nothing else to rid their skin of accumulating exhalations. Moths may serve a good purpose by preventing the hoarding up of unfashionable garments, "to be used at some time," when they might better be bestowed on the unfashionable poor; we can contrive no other plea for their existence, but we can not doubt they answer some good end. But forty good reasons for such nuisances would not reconcile any one to unresistingly suffer their presence or their attacks. Nor usually is there need of submitting to them. The whole class most abound in uncleanly places. A neglected barn yard, or other depository of decaying matter, will send forth almost Egyptian swarms of flies. All must have noticed how the air is almost darkened with them in the vicinity of slaughter houses. Their fecundity, as is the case with most insects, is so amazing that a few weeks will suffice to populate whole townships with them. A wood-shed or other out house, where chips or rubbish and dust have been allowed to accumulate, is the very paradise of fleas; but like other evil, restless spirits, they are not content to dwell there, and soon they nestle in the carpets, beds and clothing, and make themselves felt under the most aggravating circumstauces. Bugs *will* find shelter in neglected bedsteads; how they get there is sometimes a puzzle, but woe to the sleepers that seek for rest on uncared-for couches. And so with the whole family of household pests. They thrive upon neglect; they ask only to be let alone.

First, then, among spring work comes the removal of the citadels of the enemy. Brooms, dusters, scrubbing brushes, white-wash, and persevering housekeepers are to be set vigorously to work, until a stray insect marauder shall feel as much out of place as a guerilla would in a New England school house. The flies are the most difficult to exclude, as they relish the savory fare of the best kept kitchen. Against them make screens for the doors and windows, of wire cloth, or millinet, and keep them in place. Temporary gauze-covered doors for summer use, furnished with springs to ensure their being kept closed, will save a world of fly-specks and vexation. To drive out vermin already in possession is no easy task, but it may be done by perseverence. Mercurial ointment (unguentum) mixed with oil or lard, will prove fatal to refugees in the bedsteads; the Persian Insect Powder will drive roaches reeling from their cracks, and fleas and other insects will shun the scent of oil of wormwood, a few drops of which may be sprinkled among clothing. Having once obtained a victory, guard against inroads of the enemy with all possible vigilance.

"Wines" in the Household.

During a few years past the making of "wine" or fermented drinks from fruit juice, called wine, has been rapidly increasing in this country. The extended culture of grapes, currants, blackberries and other small fruits has given facilities for the manufacture, and in very many families where no intoxicating beverage had been previously allowed, a cask or a few bottles of home-made "wine" are kept for "medicine," for "company," or for an occasional treat. In so far as these articles may be substituted for the mixtures heretofore purchased as wine, when required medicinally, the change is undoubtedly desirable; but the introduction of them into general use as family beverages, is anything but advisable. The province of the household department of the *American Agriculturist* is to make happier homes, and it would not be true to its design without calling attention to this matter which threatens no little injury to domestic peace.

Some think that the free use of pure wines would not only give much innocent enjoyment, but possibly tend to the decrease of intemperance. While we believe that those who are addicted to alcoholic stimulants would be less injured by home-made fermented drinks than by the drugged compounds sold at most of the shops, we also have little doubt that the taste for strong drink which holds so many in degrading bondage was *in most cases* acquired at first by indulgence in the so-called "harmless fermented drinks," and as like causes will be followed by like effects, it seems unquestionable that the common use of wines of any kind will be followed by an increase of intemperance. Alcohol is of precisely the same nature and will produce the same vitiation of taste, and disastrous effects upon the system, whether it be extracted from grapes, currants, apples, potatoes, rye, or corn. The only difference is in the quantity taken, and no one can fix a perfectly safe limit by which to measure the amount which can be habitually drank without ultimately inciting almost uncontrollable appetite. It is not necessary here to discuss the temperance question; its principles are generally well understood; we only want to fix this fact in the mind of the reader, that alcohol in currant "wine" or any similar compound, is, according to its quantity, just as harmful as alcohol in whiskey. Those who have at heart the well-being of their children will banish from their tables what might prove to them a snare, even if they themselves might find no inconvenience from its occasional or moderate indulgence. Cold water never yet made a drunkard; wine made the first drunken man of whom we have account, and it has made millions of confirmed sots since that day.—*All* of the so called "Bitters" sold in the country, as medicinal, are chiefly alcohol, and are harmful and dangerous.

Hints on Keeping Provisions.

In the April number of the *Agriculturist*, a brief sketch was given of some of the principal reasons why provisions spoil. Among these were enumerated the instability of the elements of which most of them are composed, the rapidity with which decaying matter communicates its own disorganizing action, and the presence of undue moisture and warmth. The two latter conditions require no little attention during the coming summer months.

Where the atmosphere is very dry, there is comparatively little difficulty in preserving meat or other food. In regions where rain seldom falls during the hot months, as in the Southern Pacific States, and some parts of South America, meat is exposed to the air and allowed to dry for future use, without being spoiled; in this latitude, where moisture is almost always abundant, a few days would make neglected meat highly offensive. As we have no means at ready command whereby this moisture can be expelled, it is necessary to keep provisions at as low a temperature as possible. The cellar is usually the place of deposit for perishable articles, as being the coolest part of the house. It should be made as dry as practicable. The windows should be protected by screens of fine wire or millinet to exclude insects and dust. An occasional sprinkling of lime or whitewash about the cellar floor and walls will in some cases be beneficial by neutralizing the offensive gases arising from decay of minute particles of animal and vegetable matter, which no degree of cleanliness can wholly prevent.

The value of ice to keep provisions at a low temperature and thus preserve them, will soon be appreciated. If there be no ice-house on the premises, and account be made of the inconvenience experienced during this season for want of it, it will usually be decided that it will pay to construct and fill one when the proper time shall come again. Many of the refrigerators, or closets made to contain provisions and ice for their preservation for sale in the market, are defective in not providing for proper circulation of air. An unpleasant smell may be perceived in them, and meats or other articles kept in them acquire an unpleasant musty flavor. A good arrangement is one by which the air in the refrigerator comes in contact with the ice or a cold surface made by ice, deposits moisture, and then, as its temperature is raised by the warmer contents of the vessel, it is again cooled and deposits both its acquired moisture and the effluvium from the substances kept in the safe. In building a new house, an ice closet, or provision safe arranged on this plan, and convenient to the kitchen would be a most desirable addition.

Removing Paint from Silk and Woolen.

Frequent inquiries come to the *Agriculturist* concerning the best manner of removing accidental stains of paint and grease from clothing. Benzine, which is now very cheap, is the best solvent for these things, but it must be used with judgment. Many persons rub the spot over with benzine or other solvent, and think they have done the work.

They only make the spot larger, and consequently set benzine down as useless. One would not think of removing a dark stain from the wristband or the collar of a shirt by wiping it with a cloth wetted with soap suds. The soiling substance must be dissolved and *washed out* and then the article rinsed to remove the filthy water. Benzine must be used in just the same way: there must be a thorough washing and rinsing of the stained spot. To do this, lay the soiled article on an old blanket or other soft cloth, folded several times; pour on enough benzine to wet the spot, and rub it with a piece of sponge or woolen cloth; then pour on some more benzine, so that it will soak down through the article being cleaned, and be taken up by the cloth below. By operating in this way as long as may be thought necessary, the benzine, as soon as it becomes charged with the soiling material, will be taken up by the blanket placed to absorb it, and will, in a few repetitious, completely remove all grease or paint stains. In working with benzine, care should be taken to prevent spreading any more than can be helped, and before drying to wash the edges of the wet portion with a sponge or cloth charged with fresh benzine.

Butter and Cheese in Winter.

Mrs. Almon Benton, Pottawattomie Co., Kansas, writes: "Having noticed an article in the March number of the *Agriculturist* on making butter from "frozen milk," I will state my mode, which if tried, will be found to produce butter quite as easily in winter as summer, and the quality and quantity will also be improved. After the milk is strained, I place on the stove a kettle with some water in it; then place a pan of milk on the kettle and let it remain until the milk is scalding hot; I then remove the pan and set it away for the cream to rise. Pursue the same process till all is scalded. If the milk has *all* been scalded, it matters not whether a part or the whole has been frozen. Mix the cream thoroughly and place by the stove until it is of the right temperature to churn. The butter will all come at the same time, which seldom takes more than 5 or 10 minutes. Much sweeter butter can be made from scalded milk than in the ordinary way, as cream not scalded will sometimes get bitter, if kept long enough to get a churning in cool weather.

"For the benefit of those who make "double curd cheese," I would suggest the plan which has proved a *success* with me. When making the first curd, scald as if going to press immediately, but make it quite salt, then set it away until the second curd is ready to salt; put the old and new curds together and thoroughly mix; add more salt if necessary. The reasons for this process are: by scalding (or cooking) the curd, the whey is nearly all separated from it, which, with salt, prevents it souring, and the curd being salted it does not settle in a solid mass, and the necessity of cutting is obviated, which, with the soaking, "to get the sour out," always removes a portion of the butter from the curd."

For the American Agriculturist.

A Word about Salads.

MR. EDITOR: It has been said that a French family would live well, ou what an American family wastes. This I believe to be in a good measure true, and in nothing is French domestic ceonomy shown more than in salads. The American idea of a salad is lettuce dressed with vinegar and sugar. The European's idea, is either vegetables alone, or vegetables and meat dressed with oil, vinegar, pepper and salt. For a purely vegetable salad, lettuce, endive, corn-salad, celery, or chopped cabbage may be taken; this is covered with a dressing, sufficient to wet it thoroughly, made in the proportion of two tablespoonfuls of olive oil to one of good vinegar, with salt and pepper to taste. There is a curious prejudice among Americans against the use of olive oil. Where this exists, butter melted with a gentle heat may be used instead. All fresh vegetables to be used for salads should be kept in water until served upon the table, in order to have them firm and crisp. Another excellent set of salads may be made from cold meats; cold beef, veal, mutton, or fowl of any kind may be chopped into small pieces and mixed with a share of some green salad, or in fault of that, cold boiled beet, celery, or even potatoes may be used and covered with the above dressing. The chicken and lobster salads are usually dressed with what is called *Mayonnaise*—a sauce made of the yolks of two eggs half a teaspoonful of vinegar, salt and pepper; stir in a tablespoonful of olive oil (or melted butter), adding a few drops at a time, and when the whole is thoroughly incorporated into a rich, cream-like mess, add a tablespoonful of vinegar. The more thoroughly it is stirred, the smoother it will be. This dressing is sometimes varied by the addition of mustard and is preferred by some; it is mixed with the raw yolk in such proportion as may be fancied; then proceed as before directed. Hard-boiled eggs, sliced, may be added to all meat salads. One of my favorite dishes is the genuine potato salad. This is made of cold boiled potatoes, sliced and dressed with oil, vinegar, salt and pepper, as directed above, with the addition of a little onion and parsley chopped fine. Those who like salads will find this an agreeable way to dispose of cold potatoes. It does not cost much to live well if one only knows how, and I hope these hints will be useful to your progressive housekeeping readers. HURBERT.

More Good Bread.

Mrs. E. M. Palmer, Susquehanna Co., Pa., sends to the *American Agriculturist* the following directions for making good bread: "Boil enough nice white potatoes to thicken one quart of water like thick gruel. Stir ½ teacupful of sugar into it, then dissolve your yeast cake and add all the salt that is necessary for the bread. Let this compound stand for twelve hours; then knead in all the flour that is necessary for the bread. If there be not enough to wet what flour is required, add a little warm water. Be particular to knead it until it will not stick to the board or pan. Let it stand until morning in a moderately warm place. Then mould it into loaves, let it rise a little, and bake 1 to 1¼ hours, according to the heat of the oven."

An Educated Housekeeper's Views.

"What are you studying?" asked a young man of a friend who was taking her last year's schooling at an academy.—"The common branches, physiology, chemistry, rhetoric, and natural philosophy," was the reply.—"What *on earth* will you do with such learning in farmer G——'s kitchen?" exclaimed he, naming a worthy man to whom she was betrothed. I'm afraid you'll find yourself so well fitted for some other sphere that your education will be a discomfort rather than a source of happiness."—The answer given to this proved that the young lady possessed an educated mind as well as book learning. Said she, "How little you know about housekeeping. You talk as though it were like turning a grindstone, or walking on a treadmill, needing only plenty of muscle; and the less brains to make one uneasy, the better. Why! my mistaken young friend, there's more room for science and thought and skill in managing a household properly, than you'll ever find in your dry goods store, with a bank and a grist-mill thrown in. It requires philosophy to properly make a fire, wash clothes, sweep a room, ventilate an apartment, regulate a clock, and a hundred other matters you never dreamed of. Cooking is an every day application of chemistry. A woman can mix and heat up provisions without knowing any thing about it, but the art; but she can make better bread, butter, roast, broil or boil more nicely, put this and that together in her puddings, pies and cakes with greater success, if she knows the *why* as well as the *how*. Then, what is a poor, broken-down wife good for? Physiology teaches how to keep health in the family; and then when we have all finished the day's work, having applied science all the way through, we shall want to look over the papers and books which tell what the rest of the world is thinking about; and then don't you see how nicely some little knowledge of *belle lettres* and the laws of mind will come in? A *higher sphere*, indeed! If those who are so anxious to fill a large place, would only take pains to make the place they are now in what it might be, depend upon it there would be more comfort and less complaints, both from themselves and those depending on them. *I* intend to try to elevate my work to my own level." "Upon my word," said the young man, "you make out a pretty strong case. I never saw the matter in just that light before, and I doubt whether many women view it thus; and that such a good lesson may not be lost, I'll send it to the *American Agriculturist*," and here, Mr. Editor, you have the story.

To Color with Purslane.

A correspondent of the *American Agriculturist*, "M. G.," gives the following directions for coloring with the common weed purslane, (*Portulacea oleracea*). Boil one bushel of the green plant for three hours in a copper or brass vessel. Strain out the liquor and add to it 1 lb. of logwood chips previously soaked, or as much extract of logwood as equals a pound of the chips, and ¾ lb. of alum. Wet 3 lbs. of the goods to be dyed, place them in the mixture and expose to moderate heat for three hours; while simmering, occasionally raise the goods out of the dye and expose to the air. The resulting color will be a light bluish purple.

Boils, Bunions, and Carbuncles.—Dr. Hoffman of San Francisco, states in the Medical Press of that city, that Tincture of Iodine made of double the strength given in the formula of the United States Dispensatory, when thoroughly applied to boils, bunions, and carbuncles, will relieve all pain, and shorten the stages of suppuration more than one half. The first application almost entirely relieves the feverish symptoms, with the alternate agues and unpleasant feelings met with in delicate females and other persons. The quantity of matter is also much lessened under this treatment.—As we find this remedy copied by the Phila. Medical and Surgical Reporter, we presume it worthy attention.

Hints on Cooking, etc.

Rusks.—Contributed to the *American Agriculturist*, by Miss L. R. Getter, Montgomery Co., O.: Melt ½ lb. of butter, mix with it ¾ of a pint of milk, and flour to make a stiff batter; add 3 tablespoonfuls of yeast, and set it in a warm place to rise. When light, beat 2 eggs with ½ lb. of rolled sugar, add a teaspoonful of salt, 1 of cinnamon, and flour to make the whole of the above ingredients sufficiently stiff to mould up. Work them into biscuit form, lay them on flat tins, and let them remain until of a spongy lightness before baking in a moderately hot oven.

Soda Biscuit.—By the same contributor: 1 quart of flour, 2 teaspoonfuls of cream of tartar mixed well in the dry flour; 1 tablespoonful of lard, 1 teaspoonful of soda dissolved in sweet milk enough to make a soft dough with the flour. Bake in a quick oven.

Rice Pudding.—"Peggy" objects to the directions given in March for making rice pudding, that it is too expensive, and also indigestible from the wrong proportion of the ingredients. She says a small ½ teacupful of rice, 2 eggs at most, with a few raisins, a little salt and spice, are abundant for 1 quart of milk, which should be sweetened to the taste. A very palatable article can be made without eggs, by adding ½ more rice. Four eggs and a quart of milk would make a very nice dessert of custard, and thereby save rice, raisins, and flour. The pocket as well as the palate should be consulted in these high-priced times.

Chocolate Custard.—Contributed to the *American Agriculturist*, and pronounced excellent by one of the editors. *Ingredients:* 3 oz. of chocolate (Baker's is good), 3 pints milk, 6 eggs, 4 tablespoonfuls powdered white sugar, and 2 tablespoonfuls of brown sugar. First prepare a soft custard with the milk, the beaten yolks of six eggs, and the white of one. While this is cooking, grate the chocolate and dissolve by pouring over it a cup of warm water, and then heat it up to the boiling point, and sweeten with brown sugar. When a little cool, mix it with the custard, and flavor with a teaspoonful of extract of vanilla. Put the whole in a suitable dish and pour over the top the remaining whites of the eggs beaten to a stiff froth and sweetened with white sugar. Brown it lightly in a moderate oven. It should be brought to the table as cold as possible.

Cheap Cake.—"Peggy" sends to the *American Agriculturist* the following recipe, which she considers a desirable acquisition at present, as butter and eggs are so costly: "Take 12 ozs. of sweet, fat, salt pork, cut it very fine, and chop until it has the appearance of lard (it can not be chopped too much); put it into a pint cup and pour on boiling water until the cup is full. When cool enough to mix with the hand, add 2 cups sugar, 1 of molasses, 1 tablespoonful of saleratus or soda dissolved in a little water, spice (I prefer cinnamon and nutmeg,) ½ lb. raisins, same of currants (very good without fruit,) and flour sufficient to make it of the consisteuce of ordinary stirred cake. By adding a little wine it will keep good three months."

Sponge Cake.—Contributed to the *American Agriculturist* by "Farmer's Daughter:" Take 5 eggs, ½ pint of sugar, and 1 pint of flour. Break the eggs into a large meat plate, stir in the sugar, then with a broad knife beat them until no raw egg turns up, which will take about half an hour. Next stir in the flour gently, as beating then would make it tough; flavor to taste, and bake in a rouud tin basin. This makes a nice loaf for family use.

Loaf Cake.—Contributed to the *American Agriculturist* by Mrs. R. Watson, Hartford Co., Conu.: Mix 1 cup of butter, 4 of flour, 2 eggs, ½ pint yeast, ½ pint milk warmed. Let it rise about two hours, theu add 2 cups sugar, nutmeg and raisins, and bake immediately. The above quantity will make two ordinary loaves.

White Mountain Cake.—By the same contributor: "2 eggs, ½ cup of butter, 1 cup of white sugar, ½ cup of sweet milk, 2½ cups of flour, 1 teaspoonful of cream of tartar, and ½ teaspoonful of saleratus."

Scotch Cakes.—Mix 1 lb. brown sugar, ½ lb. butter, 1 lb. flour, 2 eggs, 1 oz. ciunamon, and a little soda, roll them out as thick as jumbles.

Jelly Cake.—By the same contributor: Mix 1 cup of coffee sugar, ½ cup of butter, ½ cup of milk, 2 cups of flour, 2 eggs, 1 teaspoonful extract of lemon or almond, ½ teaspoonful of soda, and 1 teaspoonful of cream of tartar. Bake in two long pie tins. When done cut each cake once in two, spread jelly on three parts, leaving the fourth for the top of the cake. For the table, cut in finger lengths, ¼ of an inch thick.

Madison Cake.—Mix 1 lb. of butter, 2 lbs. sugar, 2 lbs. of flour, 1 lb. raisins, 1 lb. of currants, 1 pint cream, 7 eggs, 1 teaspoonful cinnamon, 1 nutmeg, 25 drops oil of lemon, 1 teaspoonful soda, 2 cream tartar.

Ginger Snaps.—Contributed to the *American Agriculturist* by "H. H. E.", Stephensou's Mills, Pa.: Mix 1 cup of molasses, ½ cup of sugar, ½ cup of butter, ½ cup of milk, 1 teaspoonful of soda, and 1 heaping tablespoon of ginger. Add flour till stiff enough to roll thin; bake in moderate oven.

Ginger Crackers.—Contributed to the *American Agriculturist* by Mary M. Hepburn, Lycoming Co., Pa. Mix 3 lbs. flour, 1 lb. sugar, 1 lb. butter, 1 pt. molasses, 2 oz. ginger and 1 oz. each of cinnamou and cloves. Roll the dough thin, and bake iu a quick oven.

BOYS & GIRLS' COLUMNS.

The Value of Neatness.

A wealthy merchant in one of our cities relates that he owes his fortune to the habit of neatness while a boy, taught him by his good mother. She was a poor widow, and he the eldest of three children. One day, when all their food was gone, and they knew not where to procure more, they saw an advertisement for a boy in a store. The lad applied for the place, and was told that another boy had come before him, whom the merchant thought of engaging; but after a little conversation the gentleman changed his mind, and employed the last applicant. He was first errand boy, then clerk, next partner, and finally upon the death of his first employer, the whole business was left to him. After the lad had been in service a few years the gentleman told him the reason why he had been engaged in preference to the other boy. It was because he was more neat and tidy in his appearance. His clothes were patched hut clean, his hair was combed, his hands and face unsoiled, and his shoes properly blacked. Now one can not always keep entirely tidy when at some kinds of work, but it is possible to form habits of neatness, so that when working hours are over, water and brushes shall be regularly thought of and used. And even if it should not lead to a fortune in money, it will bring no small wealth in personal health, comfort, and agreeableness to one's associates. This habit must be formed in youth or it will seldom be attained afterward.

The Game of Double Acrostics.

The manner of conducting this amusement will be best understood by the following example: One of the company describes two words (called the *principal* words) thus: The *first* is a color usually observed in anger. The *second* embraces all nations of the world. A word beginning with the first letter of the first principal word, and ending with the first letter of the second principal word, expresses a quantity of paper. The second letters of the principal words begin and end a word which all are striving to obtain. The third letters of the principal words are the first and last of what debtors expect and dread. The company then try from these hints to make out all the words. It will be noticed that the principal words must each contain the same number of letters, otherwise the acrostics could not be made. The answer to the above is: *Principal words:* "Red" "Men."

ReaM is a quantity of paper.
EasE is sought for by all.
D u N is expected by debtors.

The above arrangement shows why the game is called "Double Acrostic"; the first and last letters of these three words spell the two principal words. After the above explanation, the following arrangement of another question, which is the plan usually adopted in proposing an acrostic, will be easily understood by the reader.

Question.	*Answer.*
First. The condition of Babylon.	First; Fallen.
Second. Visitors not often seen.	Second; Angels.
1. A preparation of grain.	1. FarinA.
2. A butterfly chased by men.	2. AmbitioN.
3. A too prevalent vice.	3. LyinG.
4. The sum of all commandments.	4. LovE.
5. A painter's implement.	5. EaseL.
6. Abundant among Yankees.	6. NotioN S.

We will propose the following, on which our yonng friends, (and older ones too,) may exercise their ingenuity.

First Word. A President of the United States.
Second Word. A Consequence of his acts.

1. What every baker sells.
2. Lately introduced into Mexico.
3. Every lady's companion.
4. What makes law necessary.
5. A drowning man.
6. Useful in hunting horses.
7. A pretty flower and good pickle.

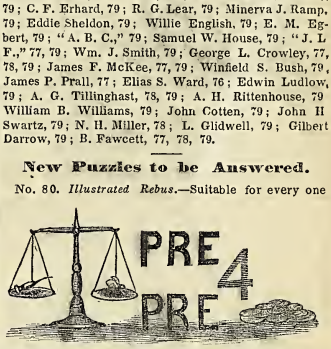
With a little thought, such puzzles can be easily made, and their construction and solution will furnish pleasant amusement to a social party.

Answers to Problems and Puzzles.

The following are the answers to the *Puzzles* Nos. 77, 78, and 79, in April No., page 119; No. 77. *Illustrated Rebus: Turnip ray ewe two wo hare yy's men walk in safe p laces*—or Turn I pray you to where wise men walk in safe places. No. 78. *Pictorial Proverb.*—"*Never too late to mend.*" No. 79. *Puzzling Dots.*—Remove 2 from each inside square, and replace one in each of the corner squares. The following have sent correct answers up to April 5th: Winfield S. Bush, 72; "B. K. N.," 72, 76; L. O. Gay, 72, Herman J. Berg, Jr., 76; O. Kirchner, 72; "X," 72, 76; G. Frank Yarnall, 76, L. A. Cole, 72, 76; G. A. Blake, 76; J. Albert Evans, 73, 74, 75, 76; "Antoine," 72, 75; J. T. Cox, 72, 76; A. S. Littleton, 72; G. W. Taylor, 76; Fred E. Parker, 76; James Huffman, 76; George S. Jeffery, 76; M. O. Southworth, 72 E. P. Harnish, 76; James Neal, 72; "Joslah," 76; E. M. Dunning, 75, 76; Lucy R. Weeks, 73, 74, 76; George F. Weeks, 73, 76; M. D. Shields, 76; Mattie M. Hamilton, 76; H. H. Stryker, 73, 74, 76; Cornelius Hoagland, Jr., 73, 74, 76; G. G. Crowley, 72, 73, 74, 75, 76; Dewitt C. Challis, 73, 74, 75, 76; Horace Andrews Jr., 73; W H. Andrews, 76; "J. R. A.," 74, 85; Newton Miller, 76 Silas G. Patterson, 72; B. F. Wilcox, 72, 76; Marshall F Rinehart, 72; Marcus Thacher, 75; S. E. Gilfillan, 76 Zenas Condit, 76; James Fisher, 79; John Waybright 77, 79; Wm. J. Newton, 72, 76; S. J. M. Bear, 77; Arthur Shriver, 78, 79; Granville J. Simpson, 76; "Brook lynite," 79; Henry H. Osgood, 72, 76; Thomas C. Waters, 78, 79; James C. Gerow, 72, 76; "Julia," 77, 78; C L. Short, 78; C. L. Essig, 79: Melvin L. Casler, 79; W. S. Scott, 79; J. G. McCee, 79; William Kimberly, 79. Georgia A. Draper, 78; "B. C. P.," 77, 79; J. C. Cooper, 79; Danske Bedinger, 78; C. H. St John, 79; Ellen Buchanan, 79; Robert G. Weeks and Lucy R. Weeks, 77; Chas. S. Hogan, 79; Hugo Otto, 79; Theresa Knapp, 79. Genette Bacon, 77; "O. K.," 78; Amos Waltor (not first), 79; C. F. Erhard, 79; R. G. Lear, 79; Minerva J. Ramp. 79; Eddie Sheldon, 79; Willie English. 79; E. M. Egbert, 79; "A. B. C.," 79; Samuel W. House, 79; "J. L F.," 77, 79; Wm. J. Smith, 79; George L. Crowley, 77, 78, 79; James F. McKee, 77, 79; Winfield S. Bush, 79, James P. Prall, 77; Elias S. Ward, 76; Edwin Ludlow, 79; A. G. Tillinghast, 78, 79; A. H. Rittenhouse, 79 William B. Williams, 79; John Cotten, 79; John H Swartz, 79; N. H. Miller, 78; L. Gildwell, 79; Gilbert Darrow, 79; B. Fawcett, 77, 78, 79.

New Puzzles to be Answered.

No. 80. *Illustrated Rebus.*—Suitable for every one

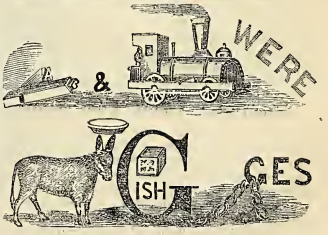


No. 81. *Word Puzzle.*—What great crime cut in tw will give a very common and innocent enjoyment

No. 82. *Pictorial Proverb,* expressing good advice.

No. 83. *Geographical Question.* — Suggested to the *American Agriculturist* by H Martin Kellogg, Worcester Co., Mass. The name of one of the Presidents of the United States has been given to towns in 26 States, and to counties in 20 States; what is the name, and in what states are the counties and towns found?

No. 84. *Illustrated Rebus.*—A historical fact.



No. 85. *A Puzzling Dinner.*—The meats and vegetables were: I, The Sultan's dominions; 2, A lean wife roasted; 3, A tailor's implement; 4, What makes people cry; 5, The 16th letter repeated; 6, Bright colors; 7, A river and a drum-beat. The dessert consisted of mixed types, made of a fowl funeral, a running stream, dried married couples, and relations of a water engine. What common names would you give these strange compounds?

SAFE AT HOME AGAIN. — *Engraved for the American Agriculturist.*

Three Ways to be Happy.

The little wanderer is safe at home again, thanks to the kind friends who found her in the woods, and the whole party are happy. The little girl looks very serious, as though she would say "I will never do so again," but nevertheless she has the feeling of *being right again*, which is always pleasant. The mother is full of joy at the return of her missing child. The strangers are happy because they have done a kindness to this poor family. Here then are shown three kinds of enjoyment, that of becoming good, of receiving good, and of doing good. Whoever would have happiness must find it in one of these three ways. The first, becoming good, and the last, doing good, will be sure to bring the other, receiving good. Whoever will learn this short lesson by heart and practice upon it, will have a more valuable possession than the "philosopher's stone," which people once believed would turn every thing into gold, and every wise girl and boy who reads the *Agriculturist* will at once set about a task which promises such great results.

Something About Your Name.

James, George, Susan, Mary, Willie, Lucy,—but we can't call a thousandth part of the roll of the *Agriculturist* girls and boys—here is something for each of you to think and learn about. What does your name mean? Why was it given to you? Thousands answer to the last question, "I was named after my father or mother, uncle or aunt, or other relative. *They* had their names from some one before them, and so back until there must have been a time when the name was first used to designate an individual. Thus *Adam* means *red color*, and the name was given to the first man from his ruddiness of complexion. *Eve* signifies *life*; a very appropriate name for the mother of the human race. *John* is said to be derived from the Hebrew word Johanan, meaning "the grace of God." If so, the beloved disciple had a name in perfect accordance with his character. It will be interesting for every one to know the history of his or her name, the meaning of the word, and the distinguished persons who have borne it. Such information will be all the more valuable if each will try to acquire the virtues and shun the vices of his name-sake, and when the name signifies something good or noble, if an effort be made to make the character equal to it; or if your name has not a good signification, then try to make it honorable, and to have it possess a value to those who come after you.

A Parrot in Court.

An English paper tells a story of a parrot which was claimed by two parties, each of whom endeavored to prove his ownership. Finally the bird was brought into court, and the real owner, from whom she had been stolen, made the bird whistle several tunes, and at the end of the performance, placed his head near the cage and asked the parrot to kiss him, which she did very affectionately to the best of her ability. "That's no proof," exclaimed the other claimant, "she will do that for any body," and he immediately presented his own face to the bird, for a like salutation. But instead of a kiss, Poll gave a sharp snap, caught him by the lip, and held on, screaming with all her might, while the bystanders could not restrain laughter at seeing the thief thus convicted, and punished by the knowing bird. She was forthwith restored to her owner—on her own testimony.

The Mysterious Quarter of Mutton.

The following incident, said to have occurred "Out West," proves that it is not always safe to judge from appearances. In a district adjoining a large forest, wolves were so plenty that it was almost impossible to keep sheep, and only now and then a "cossci" was raised as a pet. A good Deacon had reared one with much trouble, and as it had become rather troublesome, he killed it. Mutton was a great treat in those parts, so he reserved one quarter for himself, one for the minister, and divided the remainder into small portions and distributed it among his few neighbors. The minister's portion was placed in an out-building for safe keeping until the next day, but in the morning it was nowhere to be found; some one had stolen it, and the pelt in which it was wrapped. Greatly disappointed, the Deacon and his wife resolved to make some amends for the loss to the minister, and therefore selected their nicest cheese, placed it in a covered basket, and sent it with a polite note by their two boys. It was berrying time, and the boys made frequent stops both going and coming. When they returned, great was the surprise of the Deacon to find a note from the minister cordially thanking him for the present of *a quarter of mutton*, and asking him to accept the gift contained in the basket as an expression of his regard. "Mutton? Mutton?" said the Deacon, "he was probably thinking of the sheep I killed yesterday, when he wrote the note; but let us examine the basket." He opened it and there was a flat stone! The Deacon was a good man, but this aroused his indignation, and he could not refrain from speaking harshly of such treatment from one he had always considered his friend. By the advice of his wife, in the afternoon he called on the minister for an explanation, taking with him a small cut of mutton for a peace offering. The minister and his wife had just gone out, and as the Deacon was talking with their little girl, he happened to look into an open pantry, and there spied the very quarter of mutton stolen from him the night previous—he knew it by the marks he had made in dressing it. Without another word he seized it, and went home in great wrath, convinced that the minister was a thief, and determined to have nothing more to do with him. The minister on his return was equally indignant at the conduct of the Deacon, but prudently resolved to say nothing of the matter. For three weeks after, the Deacon and his family were absent from church. Every body wondered why, but he would make no explanations, neither would the minister. Finally a meeting of the church members was called, with a determination to have the strange actions of the Deacon explained, and he resolved to let the whole story out. He told the circumstances, and expressed great grief at what he considered the shameful conduct of the minister. The latter gentleman then made his statement. He said that the Deacon's boys had brought him *a quarter of mutton* in a basket, and that in return he had placed there a neat Family Bible. Every body now looked at his neighbor, wondering what it could mean; some thought them both crazy, others thought of witchcraft. All was still as the grave for some minutes, when there arose a man formerly known as Wicked Will, who had lately reformed and joined the church. "Brethren," said he in a trembling voice, "*I* stole the quarter of mutton. On my way home in the night I was chased by wolves, and climbed a tree for safety, where I had to stay until they went away in the morning. Being afraid to take the meat home by daylight, I hid it in the woods, but to make sure of it, I stayed near the place, intending to carry it away early in the evening. While there, the Deacon's boys came along, and from my hiding place I heard them speaking of what had happened. I also found that it was too warm for the meat to keep through the day, and so when they were busy gathering berries, I slipped the cheese out of the basket, and put in the meat. When they returned, they stopped again, and hearing them speak of a present for the Deacon, I examined the basket, and finding a nice package there, I thought it might be valuable, so I took it out, and put in the stone. But that is not all. On reaching home safely, I opened the package to examine my prize. While carelessly turning over the leaves, my eye fell upon the passage "Thou shalt not steal," and from that moment I found no peace until I became a changed man."—Thus the whole mystery was solved, and the Deacon and the Minister were not only reconciled, but they both heartily rejoiced together that their temporary loss of peace had resulted in so great a good as the reformation of Wicked Will.

The Slaver and the Shark.

Some years ago an English vessel on the lookout for slave ships gave chase to a suspicious looking craft. While the pursuit was going on, it was noticed that something was thrown overboard from the supposed slaver. She was soon captured and taken into port for trial, but no certain evidence could be produced against her; the ship's papers, that is, the writings which every vessel is by law obliged to carry, showing her character and where she is bound, could not be found; they had evidently been thrown into the sea during the chase. The slaver's captain was in high glee, both at his expected escape, and also with the idea of recovering damages for the seizure and detention of his vessel. But before the trial ended, a vessel came into the same port which had followed closely in the track of the chase. Her crew had caught a shark, and in its stomach found a tin box which contained the missing ship's papers, and on this evidence the slaver was condemned. The jaws of the shark with the tin box placed inside are preserved in the Naval Museum in England.

Advertisements

Advertisements, to be sure of insertion, must be received BEFORE the 10th of the preceding month.

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See pages 71 and 93 March *Agriculturist*.

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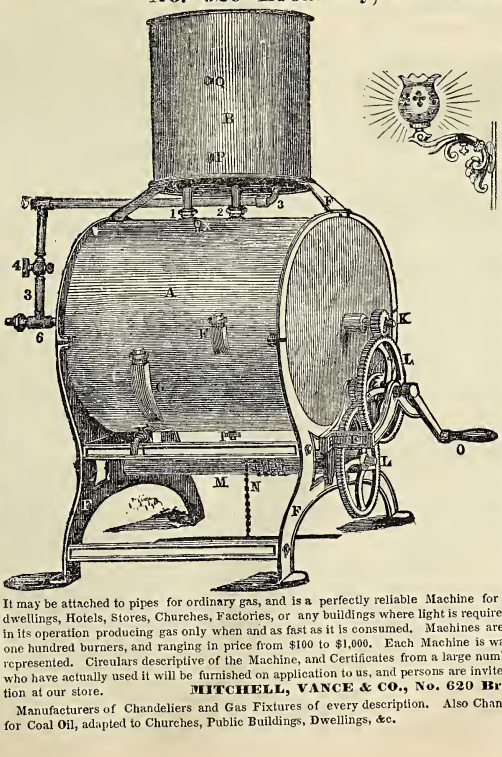

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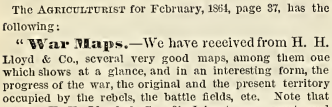

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THE AMERICAN POULTERER'S COMPANION—A Practical Treatise on the Breeding, Rearing and General Management of various Species of Domestic Poultry. Illustrated with Portraits of Fowls mostly taken from life; Poultry-Houses, Coops, Nests, Feeding Hoppers, &c., &c. A New Edition, Enlarged and Improved. By C. N. BEMENT. With 120 Illustrations. 8vo., cloth, $2 00.

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Ask no one to take their word, or trust their judgment that the instruments made by them are SUPERIOR TO ANY AND ALL OTHERS OF THEIR GENERAL CLASS in the world; though they are sure of this fact. It is natural that every manufacturer should regard his own productions with partiality, and it is easy for every one to claim earnestly that his are the best. Therefore it must be more satisfactory to the public to have the testimony of others than the manufacturers as to the superiority of any instruments; and the value of such testimony will depend in great measure on the competence of the witnesses as experts, and otherwise, as judges of that to which they testify.

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more than two hundred, including a large majority of the most eminent and widely known Organists and Pianists, and best esteemed Musicians in the country, have given their written testimony to these two facts:

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are adapted to secular as well as sacred music; to the use of families, churches, Sunday schools, lodges, etc. Their superiority is in quality and volume of tone, variety of effect, quickness of action, and perfection and durability of construction. They are elegant as pieces of furniture, occupy little space, are not liable to get out of order, and are easily transported. Prices from $55 to $500 each, according to number of stops and styles of case.

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New, enlarged Scale Piano-Fortes, with latest improvements. Thirty years' experience, with greatly increased facilities for manufacturing, enable them to sell for **CASH** at unusually low prices. These instruments received the highest award at the World's Fair, and for five successive years at the American Institute. Warranted five years. **Terms net Cash.** Call or send for descriptive circular.

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ELASTIC STITCH SEWING MACHINES.

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COG WHEELS

WARRANTED!

53,818 **SOLD IN** 1863.

Washer, Wringer,
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Silver and Bronze Medals, Diplomas, Certificates, Premiums, and Testimonials, have been received from various sources, both Public and Private.

How Long will it Last!

LETTER FROM MRS. HENRY WARD BEECHER, IN 1861.

I am most happy to speak in the very highest terms of the Universal Clothes Wringer. The hardest part of "washing-day" work is, in my opinion, the wringing; and the inventor of this machine may have the satisfaction of feeling that he has changed one of the most toilsome parts of woman's work into a very attractive amusement. The laundress looks upon it as a great blessing. I could hardly express my approbation of them more highly than I have by ordering one in these hard times, for my daughter. I look upon it as among the most useful articles in her house.

Mrs. HENRY WARD BEECHER.

Brooklyn, Oct., 1861.

IN 1864.

After a constant use of the Universal Clothes Wringer, for more than four years, in my family, I am authorized by the "powers that be" to give it the most unqualified praise, and to pronounce it an indispensable part of the machinery of housekeeping. Our servants have always been willing to use it, and always have liked it.

Brooklyn, Jan. 25, 1864. HENRY WARD BEECHER.

FROM LOVEJOY'S HOTEL, NEW YORK.

The Universal Clothes Wringer is the first Wringer that I have found that would stand the service required of it. I had already "used up" one or more of every other kind I could get. The rolls of all would twist and work loose after a short time using, and, of course, became worthless.

We have run the "Universal constantly" for about twenty months and it is still in active service.

New York, Feb., 1864. J. P. HUGGINS.

LETTER FROM ORANGE JUDD, ESQ.

Gentlemen:—You request my views with regard to the Universal Clothes Wringer. In reply, I hand you below what I said in my paper, some two years ago, adding, that since that time my wife and servants have become more and more attached to the Wringer. They would as soon think of washing without a tub as without it.

Very respectfully,
New York, Feb., 1864. ORANGE JUDD.

From the American Agriculturist.

"From several years' experience with it in our own family; from the testimony of hundreds who have used it; and from the construction of the implement itself—we feel certain that it is worthy a place in every family. A child can readily wring out a tubful of clothes in a few minutes. It is, in reality, a Clothes Saver! a Time Saver! and a Strength Saver! We think the machine more than pays for itself every year in the saving of garments! There are several kinds, nearly alike in general construction; but we consider it important that the Wringer be fitted with Cogs, otherwise a mass of garments may clog the rollers, and the rollers upon the crank-shaft slip, and tear the clothes. Our own is one of the first made, and it is as good as new, after nearly Four Years' constant use."

We have eight sizes, from $5.50 to $33. The ordinary family sizes are No. 1, $10, and No. 2, $7. These have

COG-WHEELS.

Our cheap sizes (No. 2½ and 3) have small rolls which do not admit of COGS. All others are Warranted in every particular.

This means, especially, that after a few months' use, the lower roll

Will not Twist on the Shaft.

On receipt of the price, from places where no one is selling, we will send the U. C. W., FREE OF EXPENSE. What we especially want is a good

CANVASSER

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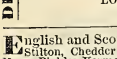

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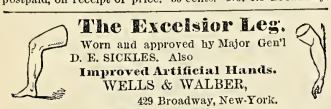

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for Mechanics, for Farmers, for Gentlemen.

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Fitted with complete sets of tools, sharpened and set ready for use, and packed in cases for shipping. Prices from $2 up, and containing from 8 to 120 tools, according to size, and adapted to the use of Boys, Youths, Amateurs and Farmers.

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Turning Lathes for Amateurs.

Also smaller sizes of foot lathes for Boys, with Tools to correspond.

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Send stamp for Illustrated Circular to the Manufacturer.
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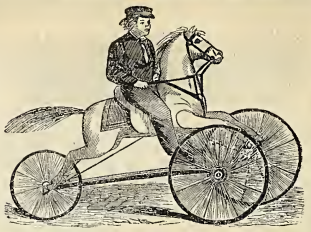

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They are worth the Money,

and where there are children, they pay a

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in health and amusement.

There is no such thing as a child getting tired of it, for the horse is always ready to **GO.** Young folks and old folks are invited to take a **RIDE** at this free school of Equestrianism, or to send stamp for circular, giving full particulars and prices.

"Wonder sparkles in the darkey's eyes;
When "missus" to the distant schoolhouse hies."

See Editorial notice in *American Agriculturist* of January 1864, page 7.

FOR INVALIDS OR CRIPPLES.

I make travelling chairs on wheels, to be propelled by weight of the rider with one leg—and another kind to be propelled by the hands for those without legs—to be used in the house or on the road; Prices from $15 to $35 each.

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The Polar Refrigerator

with Filter and Water Cooler, maintains the pre-eminence.

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BREWER'S COMPOUND FLUID EXTRACT
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ONLY 25 CENTS A BOTTLE!

Makes SIX GALLONS OF THIRTY BOTTLES of delicious, healthful, strengthening Root Beer.
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Sold by Druggists and Grocers throughout the country.

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SHEEP WASH TOBACCO.

WILL not injure the most delicate animal.
KILLS TICKS ON SHEEP.
CURES SCAB ON SHEEP.
Kills Vermin on Animals and Birds.
Cures all Skin Diseases on Animals.
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Kills Canker Worm on Apple Trees.
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Kills all Vermin that infest GRAPE and CRANBERRY Vines.
ONE POUND of this Extract will make
16 GALLONS OF WASH.

For sale by all druggists, and at country and agricultural stores.

Price 75 cents per pound. A liberal discount to the Trade, and large purchasers.

Orders promptly sent by express.

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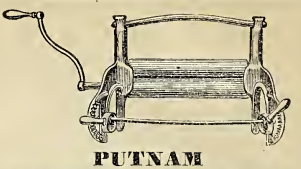

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The ONLY reliable Self-Adjusting Wringer.
No wood-work to swell or split.
No thumb-screws to get out of order,

WARRANTED WITH OR WITHOUT COG-WHEELS.

It took the FIRST PREMIUM at Fifty-seven State and County Fairs in 1863, and is, without an exception, the best Wringer ever made.

Instead of believing the statements of parties interested in the sale of other Wringers,

TRY IT, AND JUDGE FOR YOURSELF.

Test it THOROUGHLY with ANY and ALL others, and if not entirely satisfactory, return it.

It will wring any thing from a thread to a bed quilt without alteration.

Patented in the United States, England, Canada, and Australia. Agents wanted in every town.

Prices: No. 2, $5 50; No. 1, $6; No. A, $8.

Testimony of Messrs. Jno. W. Wheeler, of Cleveland, Ohio, and Jno. C. Lefferts, of New-York.

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GENTLEMEN.—I know from practical experience that iron well galvanized with zinc will not oxidize or rust one particle. I can safely say, after several years experience in the manufacture of chain, for chain-pump and water-drawers, in which I have tested the affinity of iron and zinc, that if the process be conducted properly, it is a perfect weld of the two.

Nearly one year ago my family commenced using one of your Wringers. It now performs all of its functions as well as it did the first time it was used, and has become an indispensable article with us. I have closely observed several other kinds of clothes-wringers, the modus operandi being different, trying to produce the same results as the Putnam Wringer, but in my judgment they have failed. The Putnam Wringer is as near perfect as possible, and I can cheerfully recommend it to be the best in use.

Respectfully yours,
JOHN W. WHEELER.

Many years' experience in the galvanizing business enables me to indorse the above statement in all particulars.
JOHN C. LEFFERTS,
No. 100 Beekman-st.

New-York, January, 1864.

Manufactured and sold, wholesale and retail, by
THE PUTNAM MANUFACTURING CO.,
No. 13 Platt-st., New-York, and Cleveland, Ohio.
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USEFUL and VALUABLE DISCOVERY!

HILTON'S
INSOLUBLE CEMENT!

Applicable to the useful Arts.

Is of more general practical utility than any invention now before the public. It has been thoroughly tested during the last two years by practical men, and pronounced by all to

Be Superior to any
Adhesive Preparation known.

A new thing.

Hilton's Insoluble Cement
Is a new thing, and the result of years of study; its combination is on

Its Combination.

SCIENTIFIC PRINCIPLES,
And under no circumstances or change of temperature, will it become corrupt or emit any offensive smell.

Boot and Shoe Manufacturers.

Boot and Shoe Manufacturers, using Machines, will find it the best article known for Cementing the Channels, as it works without delay, is not affected by any change of temperature.

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Jewellers will find it sufficiently adhesive for their use, as has been proved.

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It is especially adapted to Leather, and we claim as an especial merit, that it sticks patches and Linings to Boots and Shoes sufficiently strong without stitching.

It is a Liquid.

IT IS THE ONLY
LIQUID CEMENT
Extant, that is a sure thing for mending
Furniture, Crockery, Toys, Bone, Ivory, and articles of Household use.

Remember.

REMEMBER
Hilton's Insoluble Cement
Is in liquid form and as easily applied as paste.
Hilton's Insoluble Cement
Is insoluble in water or oil.
Hilton's Insoluble Cement
Adheres to oily substances.

Supplied in Family or Manufacturers' Packages from 2 ounces to 100 lbs.

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PROPRIETORS
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ILLINOIS CENTRAL RAILROAD COMPANY

OFFER FOR SALE

1,000,000 Acres of SUPERIOR FARMING LANDS,

IN FARMS OF

40, 80 & 160 acres and upwards, at from $8 to $12 per acre.

THESE LANDS ARE

NOT SURPASSED BY ANY IN THE WORLD.

THEY LIE ALONG

THE WHOLE LINE OF THE CENTRAL ILLINOIS RAILROAD.

For Sale on LONG CREDIT, SHORT CREDIT and for CASH, they are situated near TOWNS, VILLAGES, SCHOOLS and CHURCHES.

FOR ALL PURPOSES OF AGRICULTURE.

The lands offered for sale by the Illinois Central Railroad Company are equal to any in the world. A healthy climate, a rich soil and railroads to convey to market the fullness of the earth—all combine to place in the hands of the enterprising working man the means of independence.

ILLINOIS,

Extending 380 miles from North to South, has all the diversity of climate to be found between Massachusetts and Virginia, and varieties of soil adapted to the products of New England and those of the Middle States. The black soil in the central portions of the State is the richest known, and produces the finest corn, wheat, sorghum and hay, which latter crop, during the past year, has been highly remunerative. The seeding of these prairie lands to tame grasses, for pasturage, offers to farmers with capital the most profitable results. The smaller prairies, interspersed with timber, in the more southern portion of the State, produce the best of winter wheat, tobacco, flax, hemp and fruit. The lands still further South are heavily timbered, and here the raising of fruit, tobacco, cotton and the manufacture of lumber, yield large returns. The *health* of Illinois is hardly surpassed by any State in the Union.

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In the list of corn and wheat produce States, Illinois stands pre-eminently first. Its advantages for raising cattle and hogs are too well-known to require comment here. For sheep raising, the lands in every part of the State are well adapted, and Illinois can now boast of many of the largest flocks in the country. No branch in industry offers greater inducements for investment.

HEMP, FLAX AND TOBACCO.

Hemp and flax can be produced of as good quality as any grown in Europe. Tobacco of the finest quality is raised upon lands purchased of this Company, and it promises to be one of the most important crops of the State. Cotton, too, is raised, to a considerable extent, in the southern portion. The making of sugar from the beet is receiving considerable attention, and experiments upon a large scale have been made during the past season. The cultivation of sorghum is rapidly increasing, and there are numerous indications that ere many years Illinois will produce a large surplus of sugar and molasses for exportation.

FRUIT.

The central and southern parts of the State are peculiarly adapted to fruit raising; and peaches, pears and strawberries, together with early vegetables, are sent to Chicago, St. Louis and Cincinnati, as well as other markets, and always command a ready sale.

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The immense coal deposits of Illinois are worked at different points near the Railroad, and the great resources of the State in iron, lead, zinc, limestone, potters' clay, &c., &c., as yet barely touched, will eventually be the source of great wealth.

TO ACTUAL SETTLERS

the inducements offered are so great that the Company has already sold 1,500,000 acres, and the sales during the past year have been to a larger number of purchasers than ever before. The advantages to a man of small means, settling in Illinois, where his children may grow up with all the benefits of education and the best of public schools, can hardly be over-estimated. No State in the Union is increasing more rapidly in population, which has trebled in ten years along the line of this Railroad.

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The price of land varies from $7 to $12 and upward per acre, and they are sold on long credit, on short credit, or for cash. A deduction of *ten per cent.* from the long credit price is made to those who make a payment of one-fourth of the principal down, and the balance in one, two, and three years. A deduction of **twenty per cent.** is made to those who purchase for cash. Never before have greater inducements been offered to cash purchasers.

EXAMPLE.

Forty acres at $10 per acre on long credit, interest at six per cent., payable annually in advance; the principal in four, five, six, and seven years.

	Interest.	Principal.
Cash payment	$24.00	
Payment in one year	24.00	
" two years	24.00	
" three "	24.00	
" four "	18.00	$100.00
" five "	12.00	100.00
" six "	6.00	100.00
" seven "		100.00

Or the same, on short credit:

	Interest.	Principal.
Cash payment	$16.20	$90.00
Payment in one year	10.80	90.00
" two years	5.40	90.00
" three "		90.00

The same farm may be purchased for $320 in cash.

☞ Full information on all points, together with maps, showing the exact location of the lands, will be furnished on application in person or by letter to

LAND COMMISSIONER,
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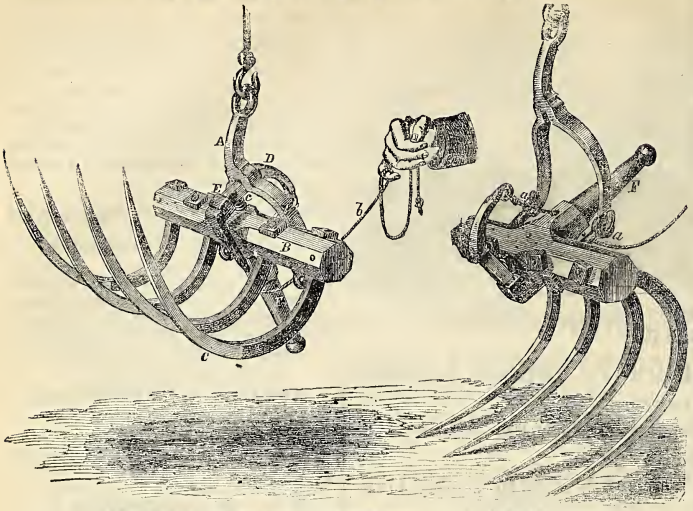

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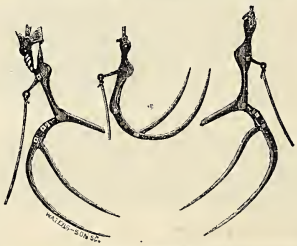

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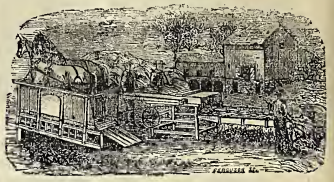

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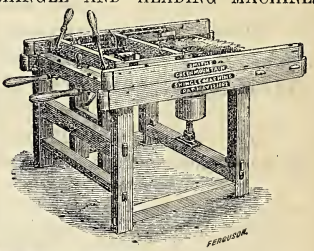

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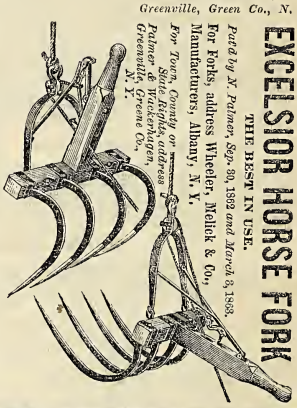

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The Bone is well known for its lasting effects, and the night soil and guano for their quick action, the combination producing a fertilizer EQUAL to guano, and far superior to Superphosphate or ground Bones. Farmers using it during the past two years, speak of it in the highest terms. Price $45 per ton. Packed in bbls. of 200 lbs. each.

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Agents Lodi Manufacturing Co.

Gents: I have used the Lodi Poudrette on corn and potatoes. I tried it by the side of barn-yard manure, and I think the POUDRETTE PRODUCED ONE-THIRD MORE CORN. I consider it a very cheap fertilizer.

JAMES BILLINGS & CO.

MAGNOLIA, Harford Co., Md., October 31, 1863.

Agents Lodi Manufacturing Co.

Dear Sirs: In answer to your request respecting my opinion of the Lodi Poudrette, I used it last spring on corn and all kinds of garden vegetables, and I consider it the cheapest and best manure for the hill I ever used, although I have used Peruvian Guano, Phosphates, and many other fertilizers. I would give it the preference to any other.

Yours respectfully EDWARD SWEETING.

WOODVILLE, Prince George Co., Md.
October 26, 1863.

Agents Lodi Manufacturing Co., Baltimore, Md.:

Dear Sirs: As to the result in my application of the LODI POUDRETTE, I applied it to a portion of my corn in the hill, according to directions. It caused a very rapid growth, and promises a good yield for a very bad season, I think at least one-third more than I ever raised on the same field before. My opinion is, that it is preferable to Peruvian Guano for CORN. Yours &c. JOS. C. THOMAS.

PINE IRON WORKS, Pa., 7 Mo., 3d, 1863.

James R. Dey, Pres. Lodi Manufacturing Co., N. Y.

Respected Friend: Thine of the 26th ult. has been received asking what our experience was in the use of the BONE-TA-FEU. We put the thirty barrels on about nine acres of wheat, harrowing it in, before drilling in the wheat, and are so far well satisfied with it, as it appears to be equally as good as any other part of the field, (about 40 acres), which was well manured with good barn-yard and stable manure. Altogether likely to be a good crop, being now nearly ripe. Respectfully thy friend, JOSEPH BAILEY.

NORTHVILE, Conn., Litchfield Co., Dec., 1863.

Agent Lodi Manufacturing Co.

I put four barrels of Poudrette upon an acre of ground this year, from which I raised a crop of Tobacco amounting when sold to a little over $400. I might also state that I sowed it in a bed in one corner of the lot, from which I raised the earliest plants, and sold enough, beside what I used, to amount to $100. Thus you see, I realized over Five hundred dollars from an acre of ground. There was no other manure of any consequence upon the lot. The Poudrette cost me, delivered, about two dollars per barrel or eight dollars in total Yours very respectfully,

CHARLES BARTRAM.

NEW MILFORD, Litchfield Co., Conn., Dec. 15, 1863.

Agent Lodi Manufacturing Co.

Dear Sir: I was induced by your Agent at Northville, Mr. F. S. Bartram, to try the Poudrette upon Tobacco this last year, which resulted most satisfactorily to me. I also tried the Super Phosphate of Lime and a mixture of hen Manure and Plaster, side by side with the Poudrette. The Tobacco where I put the Poudrette was much earlier, larger and better color, and I shall use the Poudrette in future, in preference to all other Fertilizers. Yours truly,

MARSHALL PLATT.

NORTHVILLE, Litchfield Co., Conn.

Agent Lodi Manufacturing Co.

I used the Poudrette upon Sorghum this year, and am so well satisfied with its results, that I shall use it in future. I also tried it upon Tobacco with good success.

Yours truly, EARLE BUCKINGHAM.

Extract of a letter from Messrs. Brush Brothers of FRESH POND, N. Y., dated July, 1863.

"It has been very dry with us so far, and oats are very short; but where we used the Bone-Ta-Fen, they have grown faster than they have along side where there was none put. We could also see a big difference in the looks of the potato vines, as they were not only larger, but looked black and rank. We think it a good manure."

TO FARMERS

AND OTHERS.

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N. B. A Liberal Discount made to Dealers for Cash,

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Newark, N. J.

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A real guano containing from seventy to eighty per cent of Phosphate of Lime, to which has been added, by a chemical process, a large percentage of Actual Ammonia so fixed that it can not evaporate, making it equal if not superior to any other fertilizer.

Pamphlets with copies of Analysis by Dr. Jackson, Mass. State Assayer, and testimonials from scientific Agriculturists showing its value can be obtained from

J. O BAKER & CO., Selling agents,
87 Wall st., New-York.

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American Agriculturist.

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ORANGE JUDD, 41 Park-Row, New-York City.

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N. B.—The varying cost of books and other articles, requires some changes in the above premium terms, from month to month. The *terms*, therefore, hold good only for the particular month in which they are published.

Things Wanted.—Good Advertisements, to an amount wholly unlooked for, have come in this month. The allotted space was all taken at an early day, and though we gave up some room designed for other matters, a large number of good advertisers coming in last, were necessarily left out. A multitude of queries addressed to us about things wanted, are answered in the business columns, which are allowed to be occupied only by men whom we have reason to believe will do what they advertise to do.—We continue the request that all who write to advertisers in this Journal will state *where* the advertisements were seen. It is especially gratifying to the advertisers to know through what channels they reach the largest number and the most enterprising portion of the public.

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VOLUME XXIII—No. 6. NEW-YORK, JUNE, 1864. NEW SERIES—No. 209.

Entered according to act of Congress in the year 1863, by ORANGE JUDD, in the Clerk's Office of the District Court of the United States for the Southern District of New-York. ☞ Other Journals are invited to copy desirable articles freely, if each article be credited to *American Agriculturist*.

American Agriculturist in German.

Each number of this Journal is published in both the English and German Languages. The two Editions are similar, and contain, as nearly as possible, the same Articles and Illustrations. The German Edition is furnished at the same rates as the English, singly or in clubs. A club may be part English, and part German.

Notes and Suggestions for the Month.

Steadily the sun climbs higher and higher up his shining path. The shortened shadows each succeeding noon mark his progress, until the full glory of the summer solstice is reached. Fays and fairies and the witches and spirits of the Brocken hold high carnival on the short midsummer night, and then the days begin to shorten and the nights to lengthen again. The sun "takes the back track" after the 21st of June, hence, appropriately, the crab which goes backward as well as forward, is the emblematic sign of this part of the Zodiac. The constellation *Cancer* is not brilliant like Taurus and Gemini, but still is distinctly marked by a quadrangle of stars with a nebulous (or cloudy) group in the centre. Our artist has taken the opportunity to teach a lesson in his way, and inserts a warning against agriculturists taking the backward road. Let us cultivate intelligence in our calling, temperance and virtue, and then agricultural progress shall know no retrograde, and shall meet with no check either in the experience of the country, or of individuals.

Work for the Farm, Barn, and Stock Yard.

We look forward to the coming season as likely to be one of severe trial to many farmers. At the West the spring was extremely backward, and this has crowded spring and summer work together most uncomfortably. The great scarcity of labor everywhere, is but to a very small extent supplied by a most unexpected immigration, and the very high wages demanded will lead many farmers, perhaps unwisely, to "get along" with very little hired help. Nevertheless it is likely that prices for farm produce will rule high, and that the husbandman's labor will be well rewarded. It should be the farmer's constant aim to keep well to windward, beforehand with his work, so as to allow himself plenty of leeway. Then if any thing goes wrong, if a week of rainy days comes, he will be able to weather the danger and not get set back very much. The importance of constantly stirring the soil at this season is very great. Weed seeds sprout rapidly and the young plants are tender and easily killed. After a few days growth it will be hard to destroy them, and their shade will prevent the starting of other seeds. It is much better to have weed seeds sprouted than dormant in the soil, and ready to come up just when it will be impossible to kill them, as occurs where the ground carries some sowed crops—grass or grain. Deep tillage and frequent stirring are next to thorough draining, the surest preventives against the evil effects of drouth. We have known crops of both corn and potatoes greatly benefited by running a lifting subsoil plow drawn by a pair of horses driven *tandem*, deeply between the rows.

Barley is sometimes sown with profit as late as the first of June, though it is seldom best.

Barns ought to be cleared out and put in order for the crops soon to occupy them. Attend early to all repairs, that damage do not accrue to crops that the proper buildings should shelter.

Barn-Yards.—Look out for the drainage of the yard; if possible collect every drop of water that falls upon it, in a good cistern, which can be pumped out so that it will never waste anything by an overflow. Begin to cart into the yard all vegetable accumulations of the garden and farm.

Beans.—Plant on any soil not too rank from fresh manuring. (See article in last No., p. 138.)

Beets, Sugar and Mangels.—Sow as early as possible if the sowing has been so long delayed. For more convenient horse culture, place the rows 30 inches to 3 feet apart.

Buckwheat may be very profitably sowed at this season for plowing in as a green manure crop. Two crops may thus be turned under in a season. The grain sowed now will not fill well.

Butter.—June butter is commonly the best of the year. The grass is fresh and sweet; the weather is not so hot that butter making is interfered with, and the flow of milk is larger than at any other period, so that butter may ordinarily be made in larger quantities, and better. Milk should not be disturbed at all after it is set, until it is skimmed. It should be kept at a temperature not lower than 55° F., and not higher than 60°. Though, without a cool, spring dairy-room, this is seldom practicable. The cream ought to be kept as cool as possible and thoroughly stirred every time any new cream is added. Scrupulous cleanliness, the use of tin or earthen pans scalded daily and most thoroughly, good ventilation and perfect freedom of the air from any odors of cooking, putrefaction, or any thing else, but clover blossoms, or new mown hay, churning at the lowest natural temperature, never touching the butter with the hands, working out the buttermilk very thoroughly, and salting moderately, will secure butter of an excellent quality, which if well packed will keep the year round. Scald new firkins or tubs with buttermilk, and subsequently with strong brine.

Cabbages.—At the time of setting out, dip the roots in strong brine to kill the white worms. The application also benefits the plant. Delay setting out the main crop until next month, and then if possible put them upon new ground.

Carrots may still be sowed for main crop as early as possible, or between rows of onions, to succeed them. If the onion rows are nearer than 2 feet leave every third space vacant to cure the onions in.

Cheese.—Use all means to improve the quality; visit some of the associated cheese dairies.

Cattle.—Do not over-work oxen, but feed bran or shorts if much labor is required of them. Provide shelter for beef animals at pasture, especially during storms, and give at such times extra food, if it be not given regularly. *Cows.*—It will pay to stable them nightly and feed oil-cake meal, shorts, brewers' grains, or the like, with cut hay; or use, so-called, "slops." *Calves* fattening for market may either run with the cow, or being at grass, get two or three feeds daily of skimmed milk thickened with a little bran, oil meal, oat and corn meal, etc., in judicious mixture. Take good care of calves and young stock, and keep well fed and growing.

Corn.—It is much better to plant the first week in June than a few days too early. Steep the seed until it nearly sprouts. Tar and plaster it. Blue vitriol in the water will kill smut. Keep weeds down, and stir the soil frequently.

Fodder Crops.—Corn, horse-tooth or sweet, sowed in drills or broad cast, Sugar sorgum treated in the same way, millet, Hungarian grass, etc., are all worthy of attention in case there is any danger of failure of the grass crop. For soiling or feeding green in case of drouth, either corn or sorgum are invaluable.

Grain in southern sections will be fit to harvest; cut as soon as the grain is out of the milk.

Grass.—It is better to cut grass of last summer's seeding, if it is not very stout, early, and give it a top-dressing of plaster of fine compost, than to wait until hot weather, when a drouth following, haying might do serious damage. Top-dress meadows immediately after mowing.

Haying.—See pages 169 and 174, of this number.

Hoeing.—Hand hoeing will, we fear, be greatly neglected this year, and many farmers have yet to learn how horse-hoes and cultivators may be made to take the place of the hand-hoe, however important this may be in thorough cultivation. The bayonet hoe may well be introduced into the field, especially for root culture. We find in all soils that are in any thing like good tilth, that it expedites work very much.

Insurance.—No man having less than $100,000 a year income can as a general rule afford to insure for himself—that is, to let his property go without insurance against fire. By all means insure house, stock, and crops in barn and stack against fire, with some company whose credit is worth more than their capital, and of which there is no suspicion of unsoundness, or recklessness. Live-stock life insurance, and insurance of crops on the ground are unknown in this country.

Insects.—Cultivate intelligent observation of the habits of insects to distinguish *friends* from *foes*, and destroy the latter. Our friends are few in number, chief among them are ants, and bees, the large blue steel-colored wasp-like Ichneumon fly and others of similar shape, the Ladybird, Tiger beetles, Ground beetles, and Dragon flies, or Darning-needles. These with others, either feed upon or lay their eggs in the bodies of other insects. Never kill a spider, all kinds are very useful.

Manure making should commence in earnest, and all vegetable and animal matter not valuable for other purposes should find its way to the compost, or dung heap. Look out for dead animals.

Pastures—Top-dressings of gypsum or bone-dust are in order any time this month, or before frost. Keep sheep in pastures on which brush or briars are encroaching, first mowing off the brush.

Peas.—Sow for seed from the 10th to the 20th of this month, burying the seed quite deep, 4 to 6 inches. Some shade is no disadvantage to the late sowed crop, if the soil be good. The attacks of the pea weevil are not continued much after early peas blossom. The crop will be light and no bugs.

Potatoes.—Frequent stirring of the soil is very beneficial, so also are top-dressing of ashes, plaster, etc., at the first or second hoeing.

Poultry.—Young chickens are of great value in the vegetable garden and fruit-yard. Confine old fowls in large quarters, feeding grass or some greens daily, not neglecting the directions heretofore given. An acquaintance ties up the feet of his hens having broods, enclosing each foot in a bag, and gives them the range of the garden. They do little or no damage by scratching, and eat many insects.

Seed Grain.—Select the best and cleanest part of the field, go through it pulling all weeds and inferior plants by hand, giving these that stand the very best chance. The point is not to select the seed from that part where the yield is greatest, but where the grain is best grown. Very remarkable improvement in grain may be secured by culling the largest, plumpest heads and sowing them by themselves year after year.

Sheep.—See article on page 175, of the present No.

Sorghum—Cultivate like corn, thin out freely. See notes, and "Basket" for last month.

Swine.—Employ them working over the manure; keep them in good growing order by regularly feeding corn or some grain, oil cake, beef scraps, etc. Give pigs the range of the orchard.

Tanners Bark.—Peel hemlocks and oaks at this season and stack the bark so as to shed rain.

Tobacco.—Water seed-beds with weak liquid manure, push forward the preparation of the field, to be ready to transplant about the middle of the month. Select a rainy day if possible for transplanting. Protect the young plants by wet, chaffed straw or short grass. See article on page 171.

Tools.—By means of improved implements, sharp, light hoes for quick work, and tools adapted well to the purposes for which they are used, supply or lighten in some degree manual labor.

Turnips.—Rutabagas and all Swedish varieties should be sowed this month, best before the 20th, though good crops may be gained sowed any time before the middle of next month. Put the rows far apart so that the cultivating may be done as much as possible by horse power.

Weeds.—This is the most important time in the whole year to kill weeds. The seeds are starting, and frequent stirring of the soil destroys the seedlings. Perennial plants are in vigorous growth, and repeated cutting at or just below the surface kills many kinds. Even the most tenacious of life may be smothered by covering with weeds or grass.

Orchard and Nursery.

The nurseryman, although the filling of orders is over, has abundant work in caring for the remaining stock and in providing for its increase, while those who have planted orchards will find it to their interest to spare some time from other work to look after their newly set trees, keep down the weeds and cultivate them well.

Birds.—Powder and lead like other strong remedies should not be trusted in careless hands. Shoot sap suckers, and all birds of prey, but allow no indiscriminate "gunning." The more birds the fewer insects, and the better fruit crops.

Black Knot.—Cut out the limb as soon as the knot appears and burn it.

Budded Stocks.—The vigorous shoots which push from the buds are very easily broken by winds, or even by their own weight, and should be carefully tied with bass bark to the stub of the stock left for this purpose. Remove suckers which start from any part of the stock. Keep down weeds.

Evergreens.—If proper precautions are taken to keep the roots from drying, these may be transplanted. Prepare the holes beforehand and remove the tree as rapidly as possible. Select a cloudy day. Prune into shape; leave the growth near the ground.

Grafts.—Examine those inserted this spring and rub off suckers and superfluous shoots. The grafting clay or wax will sometimes need replacing.

Insects.—The same advice must be reiterated—kill all you can and ask the birds to help. Again and again we are obliged to reply to inquiries that there are no specific remedies against particular insects. Oils, alkalies, and strong soap-suds will destroy many, others can only be conquered by burning, crushing or drowning. Whenever a caterpillars' nest is discovered, do no other work before it is destroyed. Early in the morning and damp weather are the best times to find all hands in camp. Jar the plum trees daily and gather the curculios as they fall on a sheet and destroy them.

Layers.—The new growth of shrubs may be layered, bending the branches down and fixing them by means of pegs in well prepared soil.

Labels.—Look to those attached by wires and prevent danger of binding as the limb enlarges.

Manure.—Let bearing trees have a surface dressing spread to ends of roots, if not already done.

Mulch.—All newly planted trees will be benefited by it. Use litter of any kind, chips, saw-dust, etc.

Nursery-rows.—Stir the soil, keep down weeds, remove suckers, head back such plants as need it.

Pinching.—Shoots of fruit and other trees which tend to grow too long should be stopped. Rub out shoots starting where branches are not wanted.

Seed-Beds.—Shade the young seedlings as directed in February, page 50. It is a good plan to sift fine earth over the bed of seedling evergreens so as to cover the stem up to the seed-leaves.

Thinning.—If quality is regarded rather than quantity, thin out freely, especially dwarf pears.

Weeds.—Use the horse hoe, cultivator or plow, and keep them down, the hand-hoe will be needed around trees and in the rows.

Kitchen Garden.

The returns of early vegetables already received will convince the most sceptical that a good garden "is a good thing to have in the country." Then how much better is everything fresh and crisp from the garden, than when it has been carted for miles in the wagon of the marketmen and exposed to wilt on the stalls, or at the green grocer's door. We rejoice with those who have a garden, and not the less for the thought that we have had some hand in helping to make it.

Asparagus.—Don't exhaust the bed by over-cropping, but stop about the middle of the month, clear off the weeds and let the plants grow.

Beans.—Plant dwarfs for a succession. Limas may do well even if planted now. Give the runners poles or other support.

Beets.—Sow the winter crop by the middle of the month. Hoe, weed and thin the early sorts.

Cabbages and Cauliflowers.—Sow for a late crop if not already done. Transplant from seed bed. A piece of paper, an inch wide, wrapped around the stem of each plant, at the surface of the ground, is said to keep off the cut worm. Look out for caterpillars and destroy while young. Hoe often and forward the early sorts by liquid manure.

Carrots.—Thin to six inches in the row. Hoe and keep the start of the weeds. Seed planted even as late as this will usually make a fair crop.

Celery.—Make trenches 2 feet deep, 1 foot wide and 4 feet apart, put in about 8 inches of well rotted manure in the bottom, and 6 inches of soil, and spade thoroughly. When the plants are large enough, set out a foot apart, and if the weather is hot, shade a few days. For the late crop the plants may be picked out from the seed bed into another bed of good soil to make them stocky.

Corn.—Continue to plant for succession. Have a good stock for drying for winter. Hoe often.

Capsicums or Peppers.—Set in a rich, warm place.

Cucumbers.—Those started early need care or the striped bug will destroy them. A frame covered with milinet will do in the small way. Where there are many hills it is difficult to protect them, and good culture must be the main reliance to get them out of the reach of insects. Sprinkling with pepper, ashes, plaster, solutions of aloes, etc., have been recommended. Put in seeds around the hills to furnish young plants for the bugs. Plant the main crop for pickling, using plenty of seed.

Egg Plants.—These need a light soil, well enriched, and their growth should be forwarded by frequent hoeing and doses of liquid manure. Set two feet apart in three feet rows, and hill up in hoeing.

Endive.—Treat according to article on page 178.

Insects.—Kill wherever seen. If a plant becomes much infested, destroy it. Trap moths by bottles of sweetened water. Crush eggs before they hatch.

Lettuce.—Thin and transplant. Sow for succession.

Melons.—Treat as suggested in article on their culture on page 146, last month.

Onions.—Hoe, weed, and thin to 3 or 4 inches in the rows. Mulching with sawdust and watering with gas liquor have been recommended for destroying the grub, also a dressing of salt and ashes.

Parsnips.—Hoe, weed and thin as soon as large enough. Sow early this month if not already done.

Peas.—Plant the main crop the first of the month. Set brush early and keep well hoed.

Potatoes.—Hoe and cultivate thoroughly. A handful of plaster to each hill will help wonderfully.

Radishes.—Continue to sow for late.

Rhubarb.—Cut the flower stalks as soon as they appear. Bottle or dry a supply for winter use.

Salsify.—Cultivate the same as carrots.

Spinach.—A succession sowing may be made. Try the New Zealand sort for summer use.

Squashes.—If the first planting has failed, renew

it. The ground for late sorts to be well manured. Dust abundantly with ashes while young. Look under the leaves for the squash-bug, kill and crush its eggs. If a plant wilts, look near the root for a grub, dig it out and cover the wound with earth.

Sweet Potatoes.—Set plants as directed on page 178.

Tomatoes.—Transplant for the late crop. Pinch back if spreading too much. See article on training in gardens on page 178.

Turnips.—Sow for second early. Thin and hoe.

Watering.—If this must be done, the evening is the best time. A free use of the hoe will usually prevent the necessity for it.

Weeds.—If there are any to be seen, the garden is too large. The same ground cannot well grow weeds and crops. If left to fight it out by themselves, the weeds will get the best of it. Do all the heavy work with horse power and it will be only sport to finish in the rows with the hand hoe.

Winter Cherry.—Set and cultivate as tomatoes.

Fruit Garden.

Blackberries and Raspberries.—Tie up the new growth to stakes or the trellis. Keep down super fluous shoots, saving only the strongest.

Currants.—By rubbing out straggling shoots much pruning may be avoided. Give the bushes frequent hoeing, and an occasional watering with slops or liquid manure will improve the size of the fruit. It often pays better to market the green fruit than to wait until it is ripe.

Gooseberries.—Give the same treatment as currants. If mildew appears try Mr. Hite's remedy: a quart of good ashes in a pailful of water as hot as the hand can bear, the mixture thrown with a syringe so as to wet both sides of the foliage.

Grapes.—The new growth whether of young or old vines, cuttings or layers, is to be kept carefully tied up. Young vines should not be allowed to overbear, one or two bunches to the shoot will be enough. Pinch laterals as directed on page 179. If layers were made as directed last month, the trench may be gradually filled. Look out for rose-bugs and caterpillars and hand-pick them.

Pears.—Shorten branches tending to make too much wood. Rub out superfluous shoots. Thin the fruit, especially the large varieties. If slugs appear, sprinkle air slaked lime upon them from a bag fastened to a pole. Dwarfs set this spring will be injured if they are allowed to bear.

Strawberries.—If it is wished to multiply a variety, let the runners go, but remove them from beds planted for fruiting. Keep clear of weeds. If the winter's mulch is not left on it will be well to cover the beds with something to keep the fruit clean. Straw run through a cutting machine answers a good purpose, but tan or saw dust may be used. If fruit is sent to market, have the boxes of the same quality at top and bottom. It is well to assort the fruit and make two qualities. If living near New-York, send specimens to our Strawberry Show.

Flower Garden and Lawn.

This is the enjoyable month in the garden, for the queen of flowers, the Rose, now holds her court there and all delight to do her honor. The enjoyment now experienced from the abundance of floral gifts, should induce us to labor out of mere gratefulness. So leaving the Rose and all her subjects to win favor by their own loveliness, we write out the more prosy details of the labor which shall keep up a succession of beauty in the garden.

Annuals.—Transplant those large enough, and sow seeds. If sown as late as the first week in June, annuals will frequently do as well in the open ground as those put in earlier. The soil being thoroughly warmed they grow very rapidly.

Bulbs.—Allow the foliage to wither before taking them up. Dry in the shade and wrap in papers with labels and keep until autumn in a dry, cool place, away from mice.

Carnations.—Tie the flower stalks to stakes. Sow seeds. Propagate by layers and cuttings. Cuttings put into very pure wet sand and kept in a cool place, root slowly but quite surely.

Climbers.—Keep the perennials which need it, well tied to the trellises. Tender kinds which will need to be laid down in autumn, must not be allowed to secure themselves by intertwining with the lattice work. Screens or unsightly objects may still be covered with herbaceous climbers. Rooted plants of Cobæa and Lophospernum will grow rapidly. Sow seeds of Morning glories, Cypress-vine, etc. Sweet Pea is fine for a low climber.

Dahlias.—Those not already separated should be divided, leaving a tuber or portion of one to each, and planted. Set stakes at the same time. Allow but one shoot to grow to a root.

Evergreens.—These may be removed this month if the roots are kept covered; mulch after setting. Prune those needing it into shape. The upper branches should not over-hang the lower ones.

Frames.—All are to be put under cover and glazed and repaired at the first leisure.

Geraniums.—Plant out the bedding sorts and as they incline to grow out of shape, cut them back to a compact form.

Gladiolus.—As the flower stems appear, they will need to be secured to stakes.

Grass Edgings.—Clip with the sickle as often as the grass is long enough to cut. Root out dandelions and other coarse weeds. Keep the roots from extending into the borders and walks by use of an edging knife or very sharp spade. Trim the edges of lawns along the walks in the same way.

Gravel Walks.—Rake and roll, if necessary to keep down the weeds, use a very sharp hoe.

Hedges—Cut young hedges back to thicken the bottom. Keep established ones in shape by clipping.

Insects.—Use whale oil soap for slugs and hand pick and destroy rose bugs and larger insects.

Keeping.—The garden whether small or large should every where bear evidence of what is called "good keeping." Weeds ought not to be seen, and old flower stalks, decayed leaves, and everything unsightly removed to the manure heap.

Lawns.—Mow as often as there is sufficient growth for the scythe to take hold of, using a very long scythe. Cut a well defined circle around trees and shrubs, and keep all within this clear of grass and weeds. If the grass makes a poor growth, give a dressing of bone dust or a sprinkling with liquid manure. Thistles, dock and all large weeds should be carefully eradicated with spade or trowel.

Mounds.—It often produces a good effect to raise a circular mound in the lawn of good soil and cover it with low bedding plants, such as Verbenas, or with Portulaccas, and other showy annuals.

Potted Plants.—Those set out in the grounds should be sheltered or they will be blown over by high winds. Water regularly as they may need it, unless the pots are plunged in the earth.

Roses.—Cut back the perpetuals as soon as they have done blooming. Shake off the rose-bugs early in the morning into a vessel of hot water. One pound of whale oil soap to 8 gallons of water is the best for slugs. In the absence of this try strong soft soap suds.

Transplanting.—The hints given on another page are to be noted. In dry weather make holes and pour in water, and after it has sunk into the earth set the plant. If very hot, shade with paper, an inverted flower pot, or a shingle.

Verbenas.—Peg down if needed. They may still be set out. They look best in masses.

Green and Hot-Houses.

These are by this time nearly emptied of their contents, all except the tropical plants being set in the ground. Display the few things that are left to the best advantage, and keep the house neat.

Camellias.—These need partial shade which may be given by a lattice-work as mentioned last month. Watch for insects, particularly the mealy bug.

Cuttings of all kinds of stock to bloom next winter, can be made in-doors where they can have proper moisture and shade.

Geraniums.—These are now in flower and will need free watering. Make cuttings.

Inarch such plants as are propagated in this way.

Potting.—As the plants increase in size give more pot room. A good supply of suitable soil and various sized pots should be always at hand. Get sods from an old pasture and stack up to decay. Save old hot-bed manure to use in composts.

Seedlings.—Plants started in the green-house from seeds are now large enough to put out.

Water.—The atmosphere of the house must be kept properly moist and care taken that the soil in small pots does not become too dry.

Cold Grapery.

Great care is required in ventilation to avoid sudden changes. The house should be opened and closed early; the time of doing this must be governed by the thermometer which may reach 85° to 90°, at mid-day. The rise from the night temperature to this should be gradual. During blossoming discontinue watering overhead. It is necessary to assist the distribution of pollen and ensure fertilization by going over the house every morning and give the bunches a shake with the finger. After the berries are set, syringe overhead to clean away the remains of the flowers. Give water freely. Leave one bunch of fruit to a spur and pinch off the end of the shoot at the third or fourth leaf beyond the bunch. The number of bunches left on the vine will depend upon its strength—with young vines it is safe to remove the fruit from each alternate spur. When of the size of peas thin the berries one half more or less according to variety. Tie up the side branches to the horizontal wires.

Apiary in June.

Prepared by M. Quinby—By Request.

When the weather through May has been favorable, the best hives will be full, and the bees ready to go into the surplus boxes. Occasionally, a box or two may be filled before clover blossoms; it is then, however, quite sure to be stained with pollen from dandelions. Those who want honey for the table or market, of the purest quality, only—of flavor and appearance—would do well not to put on boxes until these latter flowers are gone. Whenever the hive becomes full of bees, the boxes may be added without waiting for them to appear on the outside. In cold weather they will crowd together inside much longer than when very warm. Yet the inexperienced can have no better guide for this, than when the bees cluster outside. There is usually much gain in getting them to work in the boxes before they swarm. Boxes, whether of wood or glass, should not be over five inches deep. To encourage a beginning, pieces of clean white combs should be fastened in the top; if one or more is large enough to reach the bottom, it is still greater inducement. After a swarm leaves, when only a small family remains, they will often finish boxes, partly full, when nothing would induce them to begin. Should any colony entirely leave such boxes, or commence removing the honey to the hive below, the boxes should be taken off, and given to some strong swarm, that will finish them.... Any hive, failing to increase its bees by this time, should be examined. If the brood is diseased, drive out the bees to begin anew, before the numbers are reduced too much to do any thing. If queenless, they are generally reduced too much by this time to wait to raise a queen. It is better, unless too far gone to recover, to give them a mature, laying queen. If one can be procured in no other way; drive out the bees of a strong colony, find the queen and introduce her to the distitute one, return the bees, and in a few days—twelve or fourteen—they will raise queens, some of which, at

this season, will be likely to lead out swarms. Should a queenless family be discovered about the time small after-swarms issue, hive one in a box and set it on the top of the queenless hive at night opening the holes; next morning, if not all in the lower hive, shake out of the box in front, they will go in, and not be likely to fight....Swarms should be hived with as little delay as convenient after they have clustered. It is of no consequence what *way* it is done, providing the bees are all made to enter the hive, and then kept cool. I would discourage the practice of cutting off the branches on which they alight, for the sake of having them convenient to get into the hive, because the bee-keeper at least, ought to have his trees and shrubbery of too much value to sparc a branch for every swarm. When they get out of reach, use a ladder, and take a small box made of thin boards, to represent a hive that can be carried in one hand, or take a bag, with a hoop to keep the mouth open, and shake the bees in, and bring them to the ground where they will become quiet in a few minutes, if it is set up like a hive. If preferred, they may remain until near evening before being transferred to the proper hive....The movable comb hives are inconvenient to get the bees in. Probably the best way is to get them in a light box, or common hive; then take off the top board—and if the construction of the hive will allow it—divide the frames, sliding them each way from the centre, then pour the bees from the box, like so much wheat, directly into the hive; jar the box a little and nearly all will be out. The frames may be put in place, nearly, before many creep out. Put on the top board, lay the box on its side by the entrance, and the few bees that adhere, will soon join those in the hive. By sliding the top board just sufficient to expose the ends of the frames, they may be accurately adjusted without disturbing the bees.....Persons intending to Italianize their bees in the common box hive, should at least understand some of their natural history. They should know that in natural swarming, the first colony that leaves, is accompanied by the old queen, that any after-swarm is attended by one or more young queens and the one left in the old stock is also a young one: That, as a rule, there are no eggs laid in the old stock, after the first swarm leaves, short of two weeks—occasionally, three; that for 24 hours or more, previous to and after a swarm leaving, piping may be distinctly heard by applying the ear close to the hive, in the morning or evening; that after all swarming is over, the piping ceases, all queens but one, are destroyed, and she in a few days commences laying eggs. Now if this queen, before laying, is taken away, it is evident that no more can be reared there, for want of material....The first operation is rearing the Italian queen; when they commence laying they are ready. The number wanted, are reared in small boxes.——The process has been previously given in the *Agriculturist*. In eight days, after a swarm has issued, listen at the parent hive for the piping of the young queen—it may be heard as early as eight, or as late as fourteen days. If none is heard, look in the morning about the entrance for dead queens; if there are several, especially if some are immature, it is evidence that there will be no further swarming. It is probable, there is but one queen left, but to make it more certain, wait a day or two longer, when the whole colony is to be driven out, the queen taken, and bees returned. Two days after, the Italian queen may be introduced. If two or three swarms have issued, the piping should be listened for just the same after each. As long as it is heard, there are queens yet sealed, and further swarming may be expected, and it is useless to do any thing until they are through. Other than the swarming season will do, by driving out the bees once more. The first operation, is to drive out, find, and remove the queen, and return the bees. In from twelve to fourteen days, they will have a new queen—perhaps several. If they swarm—which they may do if honey is obtained—piping will be heard. Otherwise, the first hatched queen will destroy the others. If nothing is heard in sixteen or eighteen days, it will answer to drive out the bees again, and introduce the Italian.

Notes from the Fruit Growers' Meeting.

These meetings are continued as usual, at 2 P. M. on Thursdays. They are open to all. We extract the following from the "talks" at some of the recent ones.

E. Williams spoke in favor of the Clinton grape—had seen it preferred to Delaware.

Mr. Dodge agreed that the Clinton was a fine grape.

W. S. Carpenter left the fruit on the vines late, until touched by frost, when it was very good.

A letter was read by Solon Robinson, inquiring about raising strawberries with present high prices for labor.

Dr. Ward replied that the raising of strawberries on the old plan involved too much labor—he thought the horse and cultivator would eventually have to do the work. Manure and prepare the ground every way as for Indian corn, and set plants in rows the same distance as corn. Plow and cultivate one way, letting the plants run together in the row, dressing them out with the hoe. Cover with litter or straw in the fall, plow out or go through with cultivator the following spring, pick the crop and plow under, repeating the operation on the same ground, or elsewhere. Of course a field should be set out each year. The great labor of tillage the second year is thus avoided, a boy and horse doing all the labor of cultivation.

Solon Robinson stated that J. G. Bergen was now raising strawberries in this way. Mr. Pardee would plow under old plants and leave runners for another crop.

In regard to picking, Dr. Ward remarked that boys and girls acquire great skill by practice—his son had picked 100 quarts in a day. E. Williams said cost of picking depended on size of berries. Monmouth County growers paid their pickers $1 to $1.25 per 100 baskets.

Letters were read from the West announcing the destruction of most peach trees by the cold weather. It was advised to cut down young trees that were badly killed, and let them sprout from the bottom.

Inquiry was made if peach pits 2 years old would grow. Several persons stated from experience that perhaps one-half would grow the year they were planted and most of the others would come up the next season. Cracking the pits carefully would help those unopened by frost.

Mr. Blauvelt buries his pits in the fall, and plants in the spring—has tried cracking them during the winter, keeping dry, but only half came up.

Respecting unhealthy and short-lived fruit trees, Dr. Underhill was of opinion that they were forced too much. The nurserymen, to meet the call for large trees, crowded the growth of two years into one. Such trees readily became diseased. He thinks that nine-tenths of the injury to the peach trees is owing to this enormous growth.

Dr. Trimble alluded to a visit to Dr. Underhill's vineyard last season, where he saw more and better grape vines than ever before, mostly Isabellas. Saw some mildew on the Isabellas and noticed the rot appearing among the Catawbas. Very few Isabellas ripened at Newark, N. J. Whether the extensive thinning given by Dr. Underhill accounted for his full crops he could not say.

Regarding Dr. U.'s reputed success with the plum planted over water, he judged from observations then made that as many plums were stung over the water as elsewhere, and he did not give the curculio credit for an instinct which would lead it to deposit eggs only where the progeny would be safe when the fruit fell off.

Dr. Underhill replied that he was successful in growing annual crops of plums in this way, when he could not get any on upland. His idea was that the glare of the water might deter the insect from depositing eggs where the progeny would certainly be destroyed. He planted long bodied trees at an angle of 45° over a pond and the result was entirely satisfactory—had 2 bushels of Bolmar Washingtons on a tree thus planted, and none on another tree of the same sort set near by on upland—had not failed to raise a crop for 12 years. Another trial along a ditch where there was water only a part of the time was not so successful.

Dr. Trimble had no boat to examine the plums over the water but was positive he saw gum exuding which was a pretty sure sign that the curculio had been there.

Solon Robinson showed specimens of root grafted trees from B. W. Steer, of Adrian, Mich. He uses no cloth or wax, but joins them with a tongue, as figured in the January *American Agriculturist*.

Dr. Parker read a letter from Chas. Carpenter, of Kelley's Island, which stated that nearly all the vines on the Island were killed last winter.

A letter was read from Mr. Atkinson of W. Virginia on the deterioration of orchards for want of cultivation.

W. S. Carpenter — The borer is the cause of deterioration in the orchards of this section. The tree is attacked when very young, one egg being deposited when young, but as the tree increases in size, more appear. To prevent the insect from laying its eggs in the bark, the experiment had been made of piling stones about the trunk of the tree, as a defence, and with success. Mr. Carpenter had lost many trees by the borer, and was applying this remedy. He believed the stones prevented the insect from finding the tree.

Mr. Weld—The tin-foil used in putting up tobacco, has been found a perfect preventive, when applied to the trunk so as to completely encircle it at the base. The tree should first be examined to see if any indications of borers exist.

Solon Robinson—Hot water has been used whenever the borer makes his appearance.

An inquiry was made, "How late it would do to transplant raspberry plants.

Dr. Ward—They can be reset as late as the month of June, if the plant is in a dormant condition.

Mr. Carpenter—Almost any season will do, if the leaves are removed. He had transplanted apple and pear trees as late as June. Strawberries could be transplanted just before they bloom, after the runners have started from the main roots. The strawberry should not be pruned in the Fall, as it then elongated its roots instead of pushing out runners, as in the Spring.

The influence of the stock on different varieties of grafts, in maturing the fruit, early or late, was discussed.

Mr. Carpenter—Perceived no influence of the stock on the graft in his experiments.

Dr. Ward—Had grafted different varieties on the Vicar of Winkfield; but they ripened in succession.

Mr. Judd—Strawberry plants cultivated in a greenhouse; the plants bloomed for four or five weeks, but no fruit appeared; feared they were pistilate plants, but observation proved the contrary. The windows were thrown open, and the invigorating air admitted and he now found some well set fruit. It was humorously suggested that the pistils had become fertilized with pollen admitted through the open windows.

A letter was read from J. Sheldon, of Alfred Center, N. Y., giving his experience in grafting cions from a sweet apple tree, into that of a sour apple, and vice versa. The fruit did not do as well as when the cion and stock were the same variety. A black mould covered the fruit.

Prof. Thurber instanced an experiment of grafting sweet apple cions on a sour apple tree. Some of the limbs of the stock were left, and the grafts inserted in the lower limbs. The pollen from the original limbs fertilized flowers on the grafts, and produced sour apples. When the remaining limbs were removed, sweet fruit was produced.

A letter, on the *time* of grafting, was read, from A. H. Mills, of Middlebury, Vermont. He stated that on May 9th grafting was going on in that section. The letter maintained that the graft should be set before the leaves appeared.

Prof. Thurber believed the time of inserting grafts could be extended further than was generally supposed, if the stock was in advance of the cutting.

Dr. Ward gave a recipe for making grafting wax, such as he uses in his own nursery: 1 part of tallow, 2 of wax, and 4 of rosin. The consistence of the wax will be affected by the weather. If too stiff, he would add tallow, if too soft, rosin. He would use the wax warm and apply it with a brush; put on in this way it was more durable, and a better protection to the graft.

Different methods were suggested for keeping the wax warm during the operation of grafting, such as surrounding the vessel of wax with hot water, or a quilt of batting.

Another recipe, presented to the meeting for making grafting wax, was to melt together 2 parts of rosin, 2, black pitch, 1, white turpentine, 1, tallow, 1, beeswax. This is Watson's recipe—it is applied melted, with a brush.

A letter from George Bush, Little Cooley, Pa., recommended the use of crude petroleum, for removing moss and killing vermin.

Prof. Thurber thought this should be published with a word of caution, as petroleum consisted in good part of those oils known as kerosene, carbon oil, etc., which had been used with injury to trees. Had seen it used in small quantities on green-house shrubs to kill the mealy bug, and without injury to the plants. We need to know more of the effects of this oil before we can safely recommend it.

Mr. Dodge—What proof of injury is there from trees being set too deep?

Mr. Carpenter—Had seen elm and maple trees planted too deep. They had been set for 4 years, but were but little larger than when first transplanted. The trees were lifted and then grew more in one season than the 4 previous years.

Dr. Ward—What is the effect of throwing dirt over the roots of trees already planted? Had found in grading streets that 1 foot of earth heaped upon the roots causes death; was this because warmth and air did not reach the roots, or is injury done to the bark.

S. Robinson—Massing of earth upon the roots does not injure them—had seen no bad effects where the roots were covered deep, but the bark protected by leaving a space open around the trunk.

Mr. Carpenter—Had a tree banked up around the body 3 feet and the tree in a healthy condition. Another tree, with the roots buried, but not the bark, was decaying

S. Robinson—Had 50 maple trees destroyed by planting too low; set 50 more last year at the proper depth and they were all alive.

Solon Robinson—Alluded to the decay of young orchards in New England.

Mr. Field—The reason why young trees did not succeed like old ones, was owing to the exhaustion of the soil. Old orchards were set on virgin soil, which had not been poisoned by the excrements of other plants.

Mr. Carpenter—Some sorts had lived out their time. Of 30 N. Y. Pippins, set out seven years ago, only 1 tree was left; other sorts, very fine, were either diseased or running out. Trees were not pruned as they should be. The orchard should be pruned when young, beginning when the limbs are no larger round than the finger.

Dr. Ward—Is it advisable to trench vineyards?

Mr. Holton—The best conducted and most successful vineyards on the continent are trenched.

Mr. Carpenter—The success of the vine depends more on after culture, than on trenching.

R. S. Williams—Both may err, those who always advise trenching, and those who recommend none at all. Grape vines near a spring grow well, but do not ripen fruit. It is absurd to dig a trench 3 or 4 feet deep in good soil, but if the subsoil is a tenacious clay, subsoiling is necessary to promote capillary attraction.

Containing a great variety of Items, including many good Hints and Suggestions which we give in small type and condensed form, for want of space elsewhere.

To Correspondents Once More.—We cannot answer many personal inquiries, and do not like to devote time to this and pay return postage besides. Sometimes it is impossible; for instance Mr. C. H. C. writes about some point in grape culture and sends a stamp for reply. We write an answer and look for the address to put on the envelope, and all the clue he gives us is, Chester Co., Pa. There are over 90 Post Offices in that county, and we can not look over the mail list of each of these as it would take a long time, so Mr. C.'s answer instead of going to Chester Co., goes into the waste basket. This is only one of hundreds of similar cases of indefiniteness in letters received.

Asking Questions.—A letter before us asks how to make an asparagus bed. This is a sample of numerous queries which have been answered over and over again. This year the calendar has contained sufficient directions for asparagus with notes in the "Basket" and elsewhere. Will not our readers look through the Calendar and Index of the current year, if they have only that, before they make queries about the culture of common things. We are willing to answer useful questions, and sometimes those we have already anticipated.

Distributing Seeds.—Some of our correspondents, when they have saved a fair stock of seeds of some particular thing, ask us to say to our subscribers that they will be glad to distribute to those who apply. We do not publish these notices, as we wish to save our readers from disappointment. Unless one has fine seeds by the pound and coarse ones by the barrel, and a half dozen people with nothing else to do but put them up, he had better not offer seeds to the readers of the *Agriculturist*. Letters will come in by tens of thousands, the person who offers will not be able to supply the hundredth part of the demand, and he will be blamed for proposing to do what is generally impossible for ordinary cultivators to accomplish. The regular subscribers number about a hundred thousand, and the *readers* hundreds of thousands. What one will like to get, many thousand others will also want, especially if it is offered free. One subscriber offered seeds in this way, and received over 13,000 applications for the 400 parcels he had to give.

The Agriculturist Strawberry.—We are propagating plants as rapidly as possible, with all the more satisfaction as another year gives evidence of its great hardiness. It will be hardly fair to expect much from our plants in the way of fruit this year, they have been so severely taxed in multiplying the stock. Still we hope the berry will tell a pretty good story for itself at the coming Strawberry Show.

A Secure Investment.—The 10-40 United States Loan advertised in our columns and referred to last month, is being rapidly taken up, not only by capitalists, but by private individuals who have small sums not wanted for present use. The recent glorious successes of our armies are well calculated to strengthen confidence in the permanence of the Federal Government, if any doubts could be previously entertained. We can, without hesitation, advise all who have money to lay by permanently or for a short time, to avail themselves of the present opportunity.

Death of a Prominent Agriculturist.—Edward G. Faile, late President of the N. Y. State Agricultural Society died recently at his residence in Westchester County. Although a merchant by profession, Mr. Faile has long been known as a most successful stock breeder and farmer. His influence was widely felt in connection with the State Agricultural Society, of which he was many years a prominent member, from the Presidency of which he retired only last February. His sterling qualities as a man and a Christian made him universally respected and beloved.

Oyster Shell Lime.—"A. W. P.," Cedar Co., Iowa. Shell lime is abundant on the sea-board, and costs from 6c. to 12c. per bushel, but it will not pay to transport it far inland. This is the best agricultural lime, but good building lime is nearly as efficient, and some cheap kinds are often more valuable on the soil than higher priced, whiter and finer qualities.

Manure for Cabbages.—"E. S.," Camden Co., N. J. If barn-yard manure can not be had, use muck and ashes on sandy soil, or ashes alone in soil rich in vegetable matter. Use some sort of liquid manure while the plants are growing. An application of salt is said to make them head; we never tried it.

Manure for Strawberries.—Mrs. F. E. G. Stoddard, Northampton, (State not given,) says that the ashes of sea-weed applied to strawberries have produced wonderful results in flavor, size, and yield. "A good quantity" was applied, but amount not stated. Those who live near the shore will do well to repeat the experiment. Mrs. S. finds that a sprinkling every evening is better for fruit than profuse occasional waterings.

Seedling Strawberries.—Rev. A. G. Perkins, Dakota Co., Minn. It is very common for chance seedlings to be produced from fruit dropped from the vines. Some fine varieties have originated in this way. As it is usually three years before they come into fruit, there is but little danger of a careful observer mistaking these seedlings for the original stock. Cultivation in hills and allowing only the runners needed for new plants to grow, will obviate any difficulty.

Everbearing Strawberries.—W. O. Crittenden, Olmstead Co., Minn. We have never seen any of these worth cultivating; they bear a few berries through the season, but do not give a good picking at any one time. Unless you have something better than any now known, it is not worth propagating.

Plants for Names.—A. B. Gage, Jasper County, Ill., and F. L. Bull, Shelby County, O., both send *Mertensia Virginica*, called Lungwort or Virginian Cowslip. It is one of the prettiest native perennials of the West and should be cultivated much oftener than it is.....H. Roe, Fairfield Co., Conn. The seed appears to be that of the true millet, *Panicum miliaceum*.....J. N. Kanaga, Floyd Co., Ind., sends *Collinsia verna*. This is a neat little annual which appears among the early flowers of the West. *C. bicolor*, from California, is grown in gardens and this, though small, might find a place there....."S. E. S.", East Setauket, sends a Pelargonium flower which tends to become double after the manner described for the rose on page 177.....R. D. Gray, Armstrong Co., Pa. The plant is the Globe Amaranth, *Gomphrena globosa*, an annual easily raised if the seeds are first scalded. It is useful in the garden and in dried bouquets.

Brooks' Writing and Toilet Case advertised in the May number, is a most convenient travelling companion, well adapted for soldiers' use. It contains writing and sewing materials, and other small articles frequently needed, but not always easily attainable away from home. The whole is compactly enveloped in water-proof cloth. It would make a capital little present to a friend in the army.

"Agriculture of Mass."—Another Annual Volume of the doings of the Mass. Board of Agriculture is before us—by the favor of Mr. Charles L. Flint, Secretary, than whom there are few whose contributions to agricultural literature are more justly popular and really valuable. The farmers of the "Bay State" are happy in having a Board of such liberal views, and the expense to the State of the publication and distribution of a volume of this kind annually, is an hundred fold returned if a proper use of the work is made by the farmers. That Massachusetts farmers make a good use of books we all know. We take the liberty of proposing the subject of an "*Agricultural Experiment Station*," on the plan of those of Germany, to the consideration of this enterprising body.

N. B.—The Sunday School Book.—Some of our friends in ordering Sunday School books forget to allow for the *postage*—an important item to us—and are doubtless disappointed in not receiving quite so many books as they order. Please observe the following table and remit accordingly—allowing 2 cents each for any number over 10 copies.

1 copy, 14 cents.	4 copies, 52 cents.	7 copies, 90 cents
2 copies, 28 cents.	5 copies, 66 cents.	8 copies, 1 04 cents
3 copies, 42 cents.	6 copies, 80 cents.	9 copies, 1 18 cents

Illustrated Horse Management.—The Illustrated Horse Doctor by the same author, Edward Mayhew, member of the Royal College of Veterinary Surgeons, etc., has been received with great favor by the lovers of the horse. The diseases of the horse in this country are so similar to those with which he is afflicted in Great Britain, that for the most part that work has been found well adapted to our wants. The same may be said of the book now before us, issued by Lippincott & Co., and though it is written with especial reference to horses which enjoy the highest degree of "civilization," it contains a vast amount of knowledge which would profit even the rangers of the great plains. An admirable humaneness pervades the works of this author, a genuine love of the noble animal, and a pointed way of rebuking the revolting cruelties which many, kind-hearted men even, practise under the plea of necessity. The illustrations are from Mr. Mayhew's own pencil, and are very striking and instructive. To him who looks at the pictures alone and reads barely enough to know what they are about, the book is worth all it costs. The work is devoted not only to the management of the horse, but equally to that mismanagement which impairs the usefulness, induces disease, and shortens the lives of so many horses. Sent by mail, post-paid, for $3 50.

Hints to Riflemen.—This is the modest and attractive title of a neat volume, fully illustrated on the rifle and its use, by H. W. S. Cleveland. Every man who owns a rifle would do well to possess himself of this little book, for it discusses what makes a good rifle, describing the prominent ones in use, how to take care of and use the rifle, the principles of projectiles, and the various circumstances which govern the flight of balls. We have studied it with no little interest and profit. As game disappears before improved agriculture, our people are losing their skill with the rifle, and shot-gun too, to such an extent that in many districts a gun is seen and handled by the majority of the male population as a curiosity. The formation of Rifle Clubs has already commenced, and properly managed there might be thus afforded not only an agreeable pastime, but knowledge of, and skill with, a weapon upon which to a greater extent than we realize, may depend the liberties of the Republic.

The Spencer Rifle.—We had the pleasure of examining at the Office of the *Agriculturist*, some of these remarkable pieces which were presented by the Spencer Rifle Co., of Boston, to the Metropolitan Fair More than 20,000 of these rifles and carbines are now in use by our soldiers, and no doubt doing terrible work in the exciting days in the midst of which we go to press. This piece is so constructed that by the simple motion of a lever-guard which shuts over the trigger, it is loaded; no capping or priming is needed. It can thus be charged and fired faster than any man can take correct aim, and when the shots contained in the "magazine" which is in the breech are all fired, it can be reloaded with 7 or 9 cartridges much quicker than a common rifle can be loaded with one. Both officers and men in the army speak in enthusiastic terms of this rifle, as never failing, never getting out of order, and very accurate. The loading may be done with one hand.

The National Almanac and Annual Record for 1864.—G. W. Childs, of Philadelphia, has published the second number of this most valuable annual. All statistics and facts relating to the country, whether in the General or State Governments, the organization and principle rules of the army, navy, postal and other departments, are given, and abstracts of public laws. Statistics of Territories of the United States and of Foreign countries, election returns and a host of other things are classified and condensed into a neat volume of 641 pages, which form the most useful work of reference of its kind in print. Sent by mail for $1.50.

Chip Manure—Pond Mud.—Gilbert Rogers, Crawford Co., Pa., writes that he has rotten

slabs, bark, saw-dust, etc., and also pond mud, a large part of which is leaves, and wishes to know what to do with it. All such decomposed wood goes in agricultural parlance under the name of chip manure. Compost it with lime or ashes until it all breaks down fine and dark colored, or cart it into the barn-yard and mix it with the manure, throwing it up into regular compost heaps, provided they can be kept moist, and at the same time not water-soaked. The material will be found quite valuable. As to the pond mud, get that out when the pond is drawn off, let it lie a while exposed to the air, then spreading it in layers 4 inches deep, scatter over it quite liberally lime slaked with strong brine, let it lie a month, then cut it over, re-forming the heap. If it appears fine and well decomposed after 2 or 3 months, use it next fall. It ought to be worth nearly as much as common yard manure. If ammonia is given off when the heap is opened, add a few bushels of gypsum or plaster.

Subsoil Plows—What do they Cost? etc.—"R. C. R." Good steel subsoil plows cost $12 to $20, according to size and quality. Iron ones are cheaper, but not so good. Any good agricultural storekeeper ought to keep some on hand, and at any rate can furnish them at the same price that the manufacturers in the large cities East or West charge for them at retail.

Blue Grass in Iowa.—Mr. G. A. Benbower, Madison Co., Iowa, says that this grass does finely with him, and notwithstanding the backward spring, it was 6 inches high on May 3d.

Crops in California.—The California Farmer says that the prospects of the grain crops are excellent in almost every part of that State. In many sections crops are said to be 4 to 6 weeks earlier than usual.

Oats—"the meanest Crop Raised."—In the Basket of the April No., p. 102 we quote the opinions of some Ohio farmers against the oat—and call for more facts.—We have several communications quite to the point, but very much in favor of their culture. The vote of the farmers can not, it would seem, be unanimous in their favor. Let us hear both sides.

Italian Barley.—Our call for the experience of the readers of the *American Agriculturist* with the Nepaul or beardless barley elicits the following testimony in regard to the Italian, accompanied by a sample, from E. Maurhoff, Butler Co. (State not named). "This was obtained from the Patent Office several years ago, is sowed in the beginning of May, on moderately rich ground, comes to perfection in three months, weighs fully as heavy as wheat, answers very well for any kind of batter-cakes, like buckwheat, but tastes better, and makes an excellent substitute for coffee. The grain grows very fast, the straw is soft and good for fodder, but chickens are too fond of it, and hard to be kept off, if it be once found out by them." The grain is naked, like wheat, the head two rowed and not strongly bearded.

Is Hungarian Grass Dangerous?—"G. W. D." Framingham, Mass. It is no *new* cry that there is some danger attending the use of this crop. From all we can learn the trouble is not experienced when it is cut soon after flowering, before the seed matures and the hard shell forms over it, and before the tufts of bristly hairs which surround the seeds become stiff, as they do when the seed is ripe. No case of injury has ever come under our personal observation.

Hungarian Grass.—J. S. Adolphus, Otsego, Mich., propounds to the *Agriculturist* the following questions: "Is the Hungarian grass suitable for sheep? Is it injurious to other stock? How much seed is sown per acre? When is it sown? Will it do well on a sandy soil? At what stage should it be cut for fodder?" We know no reason why sheep would not do well on Hungarian grass, though fine hay would probably be better for them. If cut just as it goes out of blossom, we do not believe it will hurt any kind of stock. It may be sown any time before the middle of July—best about the middle of June. Use half a bushel of seed, (half as much, if you want seed only). It will do tolerably on a sandy soil that is not too poor, but very well on good light loam, manured last year.

Horses Pulling at the Halter.—"Dick." Many remedies have been proposed for curing this bad habit, but a simple and effective one is, to discard the common halter, and get a broad, strong leather strap to buckle around the neck a few inches below the ears. A horse may pull at this, but will soon give it up.

Cure for Scratches.—William C. Hart, Orange County, advises to apply kerosene oil once a day for a few times. He says the remedy is a good one and will effect a cure in most cases. It is easily tried.

Colt weak in the Ankles.—"S. E.," Camden Co., N. J. Your colt that "trips or drops on his hind fetlock" does it from weakness probably, and good keeping with little work will very likely cure him. If you can, use him without shoes on his hind-feet; but if he must needs be shod, use light shoes and have them conform as nearly as possible to the natural tread of the foot. Don't let the horse-shoer make a *pretty* shoe, and rasp the hoof to match.

Nervous Horse—Cure Wanted.—A subscriber has a mare high-strung and nervous; she starts at every sharp noise "like a snap of the finger or the slightest noise of the lips," yet is not really "skittish." She exhibited it first after being alarmed by a pistol fired near her. We advise perseverance in the plan, already tried *without* success, of accustoming her to these sounds in the stable and while she is being fed and caressed.

Rutabagas for Cattle.—"T. F. Brady," Minnesota, writes: "I have heard it said that feeding Rutabagas to cattle was injurious, because they injure the teeth so that the cattle cannot chew hay, and actually grow poor by eating Rutabagas. Now I wish to know if such is the fact?" No, it is not a fact. Rutabagas are one of the best kinds of roots for cattle feed. No roots should be fed without cleaning, for it is probable that if cattle have to chew much sand and gravel with their food, it will hurt their teeth.

To Cure Kicking Heifers.—D. J. Ellsworth writes that he pursues with entire success the following plan: "Tie a small rope loosely around the body just back of the fore legs; then take a short stick and twist the rope tight; hold one end of the stick with the right hand, to tighten the rope, and milk or handle the bag with the left. If the rope be made very tight, the cow will lie down."

Milking a Cow with Sore Teats.—"J. W. C.", Litchfield Co., Conn., writes to the *American Agriculturist* that one of his cows while dry froze two of her teats. "At calving, when milked, the blood ran freely. It was nearly impossible for two persons to milk her, and it caused her intense suffering. At the suggestion of a neighbor we took two hen's quills, cut an oblong hole about one-fourth of an inch from the small end of each, oiled and inserted them into the teats, causing no pain whatever to the cow. The bag was emptied of milk in a short time, without pain to the cow or trouble to ourselves. After continuing the operation for some days, the result is, that the teats are fast healing; the cow is relieved from pain, and, instead of drying her up, as we probably should have been obliged to do, she is saved for milk this season. It is possible that a long continuance of milking thus would dry up the cow."

Loss of Cattle in California.—The lower counties of California were subjected to a terrible drouth during the usually wet season there, by which pastures were dried up and thousands of cattle perished. Abel Stearns, the great stock raiser of Los Angelos lost about 12,000 head. Another man lost 5000, and others large herds of less number. They were the native wild cattle, roaming over the immense ranches, and valued mainly for their hides, say $2 to $5 each. If they be replaced with animals of cultivated breeds, in the end there will be a gain to the State.

A 1,600-pound Hog.—The notice of Mr. Benham's 1,355-pound hog—the stuffed skin of which is now on exhibition in our office—has drawn out several communications in regard to great hogs. One of these presents the following evidence that a much heavier hog was once killed in Burlington Co., N. J. T. S. Briggs of Evesham, writes that he has in his possession the memorandum book of Thomas Gillingham of Philadelphia, who "lived to be 90 years of age, and never had his word doubted." In this memorandum book is the following entry:—"1832, 12th mo., 21st; Weighed a hog for Benjamin Rogers, Mansfield Township, Burlington County, N. J.—weight 1611 lbs." Friend Briggs says moreover: "I have heard him tell about it dozens of times." This testimony, we think, is good, and if it takes a plume from Mr. Benham's cap, he will rejoice as much as any body to know the fact.

"Chester White" Hogs.—"W. P. T." The *Agriculturist* has never intimated that the Chester White's were not *white*, nor has it stated that they breed pied or colored pigs. Our readers have been put on their guard least they might buy white pigs having the same general shape as these, but not being well-bred. There is complaint that animals *bought* for pure Chester Whites, breed pied offspring, showing impure blood.

Wool.—Two sheep owned by Oron Whitcomb, Ashland Co., O., sheared $20.80 worth of wool of one year's growth, this season. The weight is not given.

Good Company for Sheep.—Alonzo Wilson, Cerro Gordo Co., Iowa, says: "Get a good muley heifer, 1 or 2 years old—white or strawberry-roan; let her wear the bell, she will give great satisfaction to the sheep, is readily seen by them, keeps the sheep from wandering, and will become very much attached to them, will greatly assist in driving the sheep over streams, etc., and will be found to be of more benefit than I can detail. An old cow does well, but will not become so much attached to the sheep. The cow or heifer should have no horns." The idea is not new, but excellent.

Loss of Lambs.—T. P. Brown, Dacota Co., Minn., thinks that a considerable loss of lambs, particularly in cold weather, is occasioned by the teats being stopped by a little hard lump just within the point. A vigorous lamb will loosen it, but a feeble one can not. He advises to catch the ewe and by squeezing the teats, remove these lumps, which will be found in nine cases out of ten. Mr. B. considers this to cause the loss of more lambs at birth than all other causes combined.

Insects on Asters.—Stetson, Brunswick, Me. Growing them in a new and different soil is the only way we can suggest to get rid of the "lice" upon the roots. We have never been troubled in this way.

The Cut-worm a Climber.—Cyrus Olney, of Monroe Co., N. Y., states that upon visiting his garden at night with a lantern he found 4 to 6 cut-worms on each dwarf pear tree—some of them eating the top-most buds. He offers a prize to children for every dozen collected—a very certain way of getting rid of them.

More about the Gopher.—Rev. A. G. Perkins, Dakota Co., Min., says that he shot many gophers last year, and in every case but one, their pouches were full of dirt. The exceptional one had about half a gill of peas, procured from vines near by.

No Rats or Mice.—Isaacsen's Phosphoric Paste has given us more than a year's freedom from these pests. It appeared to drive them off, as no dead ones were found or smelled. Several friends have found the remedy equally valuable. Has any one failed with it? With our favorable experience, we think we do the reader a favor by recommending the use of this preparation where rats and mice are troublesome. We have not yet tried Mr. Isaacsen's other insect remedies advertised, and therefore know nothing of them.

To Expel Fleas from Animals.—Dr. Dadd recommends to rub a few drops of oil of pennyroyal along the animal's spine. We have used oil of wormwood for the same purpose with very good results; it may be necessary to repeat the application several times, and also to extend it to different parts of the body.

Distinguishing Italian Bees.—Hiram McClelland, Seneca Co., O. The Italian bee is longer than the common species, has a more hairy covering, and is particularly distinguished by yellow bands which surround the body. Queens, however, may possess these marks and yet not be pure breed, as the progeny of the Italian crossed with the common black bee may have all the external features of only one parent. The only sure test of queens, is in the character of the young bees; if these show no features of the common species, the purity of the mother may be relied upon.

Bees in Houses.—G. G. Macomber, Bristol Co., Mass. In large apiaries, a house, or room in some outbuilding for wintering bees is desirable. A good arrangement is described in Quinby's Mysteries of Bee-Keeping, noted on our Book List.

Eggs in Winter.—"W. H. M.," Norfolk Co., Mass., commenced the year with 2 two year-old hens, 6 one-year-old, 18 spring pullets and 1 cock. They were fed 3 times daily—a quart of corn in the morning, a quart of scalded meal mixed with a little scrap cake, at noon, and a quart of corn at night. They were allowed to run, and had always before them lime, shells, dust, and fresh clean water. They laid in Jan. 353 eggs, in Feb. 452, in March (5 hens setting,) 413, in all 1,218 eggs. The smallest number in any one day was 5; the largest, 21; the average 13. Average weight, 1¾ lbs. to the dozen. No doubt they had warm, comfortable quarters, though this is not specified.

Loss of Chickens.—A. B. McKeon, Bergen Co., N. J., reports that the gapes in chickens

have been very prevalent in his neighborhood, the present season. He lost about sixty chickens from this disease, although he tried the remedies proposed and said to be infallible. Investigation and definite knowledge on the cause, prevention and cure of this disorder, are yet wanted.

"Succor" for the Chickens—Gapes. We give the following letter without attempting an amendment, holding that "*sense* is better nor *larnin*." Squire Bunker must look out for his laurels: "As it is a rainny day and I can't do nothing about farm work, I thought I would sit down and write to you. I see in your March paper some people don't know how to cure Gapes in chickens, and you want to know if any one can give a positive unfailing remedy, well I will tel you how near I come to that sort of thing, I come within one of it, and I think thats neer enough to make a calculation from, that is, after 20 years expearence. I have raised, or my wife and me together have raised, from fifty to five hundred a year, and never had but one to die with the gapes. I have had 15 or 20 gaping of a cold wet morning as tho they had something in their throats that would choake them to deth in 5 minits, and in fifteen minits more they all would be as smart as crickets. Well I'le just tell you how its done and if you chuse to tel every boddy els—I dont care. Well I take for 15 or 20 chickens about a soser ful of corn meal and one of cayenne pepper, that is 1 *teaspoonful* of the pepper, and watter enough to mix and give it to them and if it dont cure them in les than no time just let me know, and give me the particulars, that is, what kinde of chickens they air, and how you manage them, and I think I can save you and your chickens; that is if you take my advice. Now Mr. editor some of your folks may wan't to know, and you can tell them that I live a way out west a-bout the middle of Succordom and a-bout a good stones throw south of latitude 40 and a half days travil west of longitude 12, I am a Pennsylvanian by birth but a naturalised succor; I am keeping a account of my poltry this year and intend to beat them down-easters all hollow and you may just tel them so. But it has quit rainen and I must be looking about out of doors.—Your friend,

A NATURLISED SUCCOR."

Cure for Gapes.—Stephen H. Feekes, writes to the *Agriculturist*. "To cure gapes in young chickens, put them in an empty flour barrel; take a piece of gunny bag or coarse cloth of any kind, and make a bag of it, large enough to hold a quart or two, fill it half full of dry ashes. Hold it in the barrel and shake it until the air in the barrel is filled with the dust. Repeat it two or three times in an hour, and when the dust is settled let them go to the old hen and if she don't thank you I will."

Scalding Borers.—Dr. Pitcher, of Hyannis, Mass., uses a syringe with a bent tube, with which he throws hot water into the holes and scalds the borers. He successfully treated 22 trees in this way.

Simple Protection for Cabbage Plants.—"B. B. D.," writes to the *Agriculturist*. "Since my boyhood, I have protected young cabbage plants from worms, simply by surrounding the stems closely with small flat stones or chips or pieces of shingles. Almost or quite invariably the worm comes to the surface, near the stem it intends to attack; and if it meets an obstacle there, it falls; for it usually eats off the stem *above* the surface, if any where. I never saw this remedy practised by others, except at my suggestion; but I regard it as very effectual. Small stones which will fit closely enough around the plant, are often to be found on the spot."

Pumpkin Seeds for Worms.—G. W. G., New Hartford Centre, Conn. These are used by physicians to remove tape worms from the human system. Two ounces of the seeds from which the skin has been removed are beaten in a mortar with an equal weight of sugar and a half a pint of water, to form a milky fluid. This is taken at a dose, after fasting. If it does not operate in about two hours, a dose of castor oil is to be taken.

Raising Trees for Fuel.—A writer in the Wisconsin Farmer is of opinion that raising trees for fuel will ere long be a necessity in that State. During the past winter owing to deep snows a very scanty supply was taken to the cities and villages from the localities whence it can now be supplied, and prices rose one hundred per cent. As no near supply of coal exists, and the forests are rapidly disappearing, he considers the past winter a warning of what may be expected, if measures be not soon taken to procure a supply. The subject is worthy serious attention.

Fall Pippin in Northern Illinois. "B. B. D.," writes to the *American Agriculturist*: "At one of the meetings of the Fruit Growers' Society, I heard part of a discussion on the early decay of recently planted orchards. Incidentally, it was affirmed, without qualification, that the Fall Pippin was perfectly hardy. It may be so in that and many other regions; but it is quite otherwise in Northern Illinois. I have, in the last twenty years, pretty carefully tested more than one hundred and fifty varieties of apples—by far too many—and the Fall Pippin was found among the most tender of them all. From a considerable number of trees, I never gathered a bushel. Not one good tree of this sort remains, and most are wholly dead. I speak from personal knowledge only of my own trees, and those in the same vicinity—about 20 miles northwest from Chicago."

The Winter's Work on Fruit Trees.—We extract from our letters some notes on the destructive effects of cold at the West. In St. Joseph's Co., Mich., the peach trees are severely injured and no crop expected.... "G. C.," Hamilton Co., writes: Bartletts not a single leaf or blossom bud alive. Peach and quince branches would make good kindling wood. New Rochelle Blackberry killed to ground; Doolittle uninjured.

Tree Labels.—E. Tatnall, Jr., of the Brandywine Nurseries, Wilmington, Del., sends specimens of very neat labels. Mr. T. has a small printing press, and occupies leisure time in printing in clear type upon ordinary wooden tags the names of the fruits he expects to send out. He doubts if it would pay to have them printed, but he sends them as hints towards improvement in this direction..... "Amateur" marks his trees by cutting the initial letter, or such letters as will designate the variety, with a sharp knife into the smooth bark, without removing any of it. The mark shows but little at first, but is plainer as the tree grows, and lasts many years.

Transplanting Nut-bearing Trees.—A correspondent writes that he has success with the walnut, hickory and other trees having a long tap-root, by cutting this about a foot below the surface a year before transplanting. This causes numerous fibrous roots to be thrown out, and the tree may afterwards be removed with but little risk of injury.

To Clean Carrot Seed.—H. Knell, Jo Davies Co., Ill., answers to a question in the April No. of the *American Agriculturist*: "I wish to state that in Germany, we treated carrot seed in the following way: After the seed is gathered, it is put in an airy place to get thoroughly dry. It remains there until time can be spared in winter to pack it in bags; it is then dried in or over a baker's oven; after this it is beaten with a threshing flail for a few minutes, which not only loosens the outer skin, but also the little spines attached to the seed. Then by running through a fanning mill you get cleaner seed than can be procured by any other method."

How to Show Strawberry and other Plants in Fruit.—The neatest and best way we know of to exhibit strawberry and other plants in full fruit or flower, in a fresh, growing condition, without the least injury to the plants, is the following: Have a short section of a stove-pipe made, 6 to 12 inches long, and 8 to 20 inches in diameter. Set this over the plant, and with a billet of wood drive it into the soil, until its upper edge is even with the surface. Then dig away the soil around and below, and slip a board under. The whole plant, with soil undisturbed, can thus be lifted and carried anywhere, and whenever desired be returned to the ground with no loss of vitality or vigor, if kept watered while out. When designed for exhibition upon a table, it is well to previously fit a board into the bottom of the cylinder, with two or three screw holes around the rim. Then on lifting the plant, pare out a little of the bottom soil, slip in the board and fasten it with the screws. The size, and height of the sheet iron cylinder will depend upon the size of the plant, and the amount of root necessary to be preserved. The expense is but trifling, and the cylinder made of Russian sheet iron, and set upon a plate or dish is as neat as a flower pot.

Varieties of Asparagus.—E. Merritt, Dutchess Co., N. Y. There is abundant evidence that varieties of asparagus are not perpetuated by seed with any certainty, but that the sorts which have received distinctive names are due to peculiarities of soil and culture. Seeds of large kinds, other things being equal, will doubtless produce better plants than seeds from poor sorts.

Putty for Green Houses.—The Prairie Farmer says, that putty made with one third white lead instead of all whiting, will last at least three times as long as that of ordinary quality, which is not usually durable under the severe exposure of a green-house

Black Knot in Plum Trees.—"J.," Ogdensburgh, N. Y. The question of its origin was settled over 40 years ago when it was shown to be a fungus. The observations have been repeated since, and are given in the April *Agriculturist* of 1863. There is no doubt that insects use this soft growth in which they deposit their eggs, but it certainly is not caused in this way.

Nebraska Plums.—"A Subscriber," in Otoe Co., Nebraska, cautions us against believing all that is said about the wild plums of that State, noticed in January "Basket." He says that there are good wild plums, but that nothing is yet known of them in cultivation, and he supposes that they are praised to create a demand and thus get up a hardy-plum-tree speculation. We have given both sides of the Nebraska plum story, and await further developments.—Cions may come by mail in a tin box, with sand or in slightly dampened moss covered with oiled silk and strong paper.

Exterminating the White Daisy.—N. Thomas, Portage Co., Ohio. Where this abounds, the only way to exterminate it is to plow up the meadow and plant some hoed crop. Pasturing with sheep will abate the nuisance in a measure. Some consider them valuable when made into hay, but we doubt it.

Cultivation of Huckleberries.—Erastus. All the varieties would doubtless grow in Ohio. We know of no attempts to cultivate them. Here is a good field for experimenters.

Baker's Fruit Jars.—"Young Housekeeper." These fruit jars have a cover made either of metal or glass, the former being preferable. A thin ring of India rubber is placed between the cover and the top of the jar, and an iron clamp is placed over projections on the sides and in contact with the top to hold it firmly in place. We know no better kind at the same price.

Sicilian Fowls.—O. H. Peek, Middlesex Co., Mass., thus describes fowls purchased by him under the above name, which he can not find mentioned in works on poultry. They have slightly feathered yellow legs, a medium sized top-knot, with a small brilliant red rose comb. He would like to know their origin.

Wind Power Saw Wanted.—Oliver Washburn, Huron Co., O., desires to find a good sawing machine driven by a wind-mill. Manufacturers of such an article, if it is made, should advertise.

Dyeing Directions Wanted.—H Scholer, (no address,) wants some reliable receipts for domestic dyeing. In these high price times they would be very welcome. The weight of the stuff that is to be dyed, and the amount of dyeing material, and the exact method of application should be stated.

Scouring Knives.—A subscriber to the *American Agriculturist* writes that the ashes of hard coal unmixed with any from wood, are a better article than Bath brick for scouring knives, forks, etc.

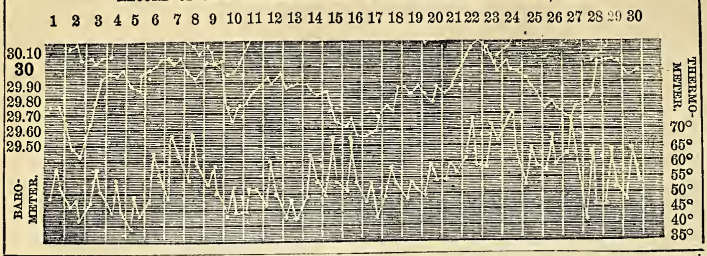
Animals in Vinegar.—"Subscriber," Kokomo, Ind. The particles which look like "very tiny white worms" are not portions of the "mother" but are really small animals which breed and find their proper home in good vinegar. They are popularly known as vinegar eels, and are called by naturalists *Anguillicula aceti*

Farm Implements in the U. States. It is estimated by J. J. Thomas, that there are now fifty millions of capital invested in farm implements, in this country. This looks as though the people had several jobs of work on hand, which they meant to do.

An Old Farm Song Wanted.—Roswell Atkins, Hartford Co., Conn., wishes to find a copy of an old song entitled "The Rolling Stone"; the chorus of it was "Oh! stick to your farming or suffer a loss; a stone that is rolling can gather no moss."

Severe on Pure Ivory.—An exchange says, maliciously: "You carry a beautiful cane—it cost $3.50; $1.50 extra on account of its beautiful pure Ivory head. Your wife has a costly fan, with a pure ivory handle. In your pocket is a pure ivory-handled penknife, very pretty and fine. On your table is a set of knives and forks, with pure ivory handles, at a little expense they have cost for being pure ivory. The rings in which are the reins of your costly double harness are pure ivory. The handles of beautiful parasols are of pure ivory—and so on with many articles useful and ornamental. But it happens that this 'pure ivory' is manufactured from the shin bones of the dead horses of the U. S. Army."

RECORD OF THE BAROMETER AND THERMOMETER FOR APRIL, 1864



NOTES.—Quantity of Rain as follows: 1st, and 2nd, 0.48 inch; 11th, 0.91 inch; 13th, 0.26 inch; 25th and 26th, 1.63 inches. Total, 3.28 inches. There was slight rain on the 5th, 9th, 14th, 23d, 27th, 28th, and in the night of the 30th, but inappreciable. There was snow on the 13th and 14th, but very slight. Lunar halos occurred on the evenings of the 15th, 16th, 17th, and [illegible]th, a Rainbow on the 26th, and Aurora Borealis on 27th.

May 1st, 1864. O. W. MORRIS.

"Ten Acres Enough."—Soon after the publication of the rather severe criticism upon the author of this very interesting and instructive book, which appeared in the last *Agriculturist* (p. 134), a letter was received from him disclaiming intentional plagiarism, in making use of certain articles found "afloat" in the newspapers without credit, and in which certain points were well made, and the views he himself entertained very tellingly put. The land company's advertisement was inserted gratis, merely as an act of friendship, and it has been removed as likely to give a wrong impression in regard to the work;—and in future editions the paragraphs used as above stated, will be indicated by quotations. As to the book and the facts. The writer found it in his way to visit the author of "Ten Acres Enough," at his house, and is satisfied that while a spice of romance runs through the book, and what *actually was*, is curiously mingled with what *might have been*, the author has recorded much valuable personal experience upon a farm of the size he represents, upon which he still employs much of his time, and has worked in the results of many practical observations upon the well tilled lands of his neighbors. Such records are always valuable, and in this book they are put in a very readable form.

The Patient's and Physician's Aid. By E. M. Hunt, M. D. Saxton of New York publishes a clever manual of 365 pages with the above title. It is not often that we commend popular medical works, but this one seems an exception to the usual run. Its directions are plainly given and set forth what can safely be done without a physician, and indicates how intelligent aid can be given to one who is called in. Price $1.25.

Book of Fruits. Many Inquirers. Downing's Fruits and Fruit Trees of America is the standard work on the subject and is one which will probably not be superseded in a long time. It contains besides the descriptions, outlines showing the form of many of the varieties. It is a work of over 700 pages and is sent by mail for $2.00. The best work on propagation of fruit trees, and nursery and orchard management is Barry's Fruit Garden. Price 1.50.

New York Live Stock Markets.—The weekly receipts of Cattle for the last month, ending May 10th, average 4,152. Prices have ruled higher than for any time for years. The market opened on April 12th, with an advance of 1c. per lb., Premium bullocks selling at 17c.@17½c. dressed weight; Medium to Prime, 14½c.@16½c.; Coarse oxen readily brought 14c. Average of all sales, 15c. These quotations were sustained at the last market....*Cows.*—The weekly receipts average 164. The demand for good cows is quick, and they are held at high figures; the best cows selling at $75 @90; fair to good ones at $45@$60; common at $35@$40. ....*Veal Calves.*—Choice veals bring at this date, 9c. per lb., live weight; poor, light ones, from 5c.@6c..... *Sheep and Lambs.*—The weekly arrivals of sheep average 9,190. The prices run high. The best wool-sheep are worth this week about 10¾c. per lb., live weight; Poor lots 10½c.; Shorn sheep rate 6¾c.@8c.; Lambs were selling at $[illegible]@$7 Pelts have declined 50 cents..... *Live Hogs.* The weekly average receipts are 11,771. The increased arrivals of the last two weeks have depressed the market, and prices have declined. Prime corn-fed sell at 7⅝c.@7⅞c.; still fed hogs, 7¾c.@8c.

A Note from Mr. Judd.

HOSPITAL CAMPS,
Belle Plain, Va., May 11, '64.

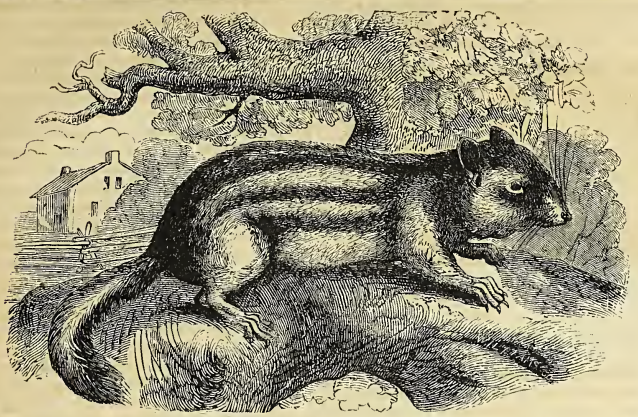
Please put the June *Agriculturist* to press without looking for any help from me. I have been here thirty hours, and what hours—an age concentrated into a single day. I know not how many thousands of wounded men have gathered here from the battle fields, a little distance West, South-west, and West. It has been our pleasure to receive these men as they came in to be forwarded to Washington, and relieve their thirst and hunger with coffee, stimulants, etc., to furnish clean clothing to the blood-soaked, crutches to the crippled, and say words of cheer.——Now we start for a night walk of 8 miles toward the battle field which is moving southward, where we shall find those unable to ride here. Along with us go a long line of teams, filled with stores from the U. S. Sanitary Commission, which we go to distribute.—Tell the contributors to the *Agriculturist* fund, and others, that every dollar they have sent is doing a world of good.—I can not stop to describe, but must prepare for our march. We have brought along 140 tons to distribute. O. JUDD.

(ADDITIONAL.)
Fredericksburg, Va., near Midnight,
May 11th, 1864.

If I had previously any doubts respecting the future punishment of the wicked, those doubts would have been removed by what I have this day witnessed. What amount of torture, hanging, or death could sufficiently punish those ambitious leaders who brought about this terrible war. The scenes of suffering are utterly indescribable. In order to load our Sanitary wagons with the last possible ounce of supplies, some forty of us started on foot and made a weary march of nearly a dozen miles this P.M., to this point, part of the way in drenching rain, and a hail storm. At least half of the road was filled with wounded men on foot, and hundreds of army wagons containing four to six men each. All of these men were pierced with bullets in some part of the body. Fortunately, most of these wounds are not fatal, but they are sources of pain and suffering, more or less severe. About half of these wounded men were able to walk in from the battle field, and thence to Belle Plain, where they take steamers to Washington. The other half were carried in wagons, some of them with broken limbs, and many others pierced in through various parts. But here, in Fredericksburgh, and in the Camps in the woods, are lying terribly maimed and shattered human forms. Almost every house, church, and other building, is a hospital. But I will not dwell on this scene. One word as to what is being done by the Sanitary Commission—with the money contributed through its fairs, through the "*Agriculturist* Sanitary Fund," and other channels. Part of our force remained at Belle Plain, to supply every man coming in with, first a cup of good warm coffee, with good sugar, and condensed milk (of which we brought down a ton in pint cans); then with soft bread and crackers; then with crutches where needed, cups, clean garments in the place of their own blood-soaked, dirt-soiled, habiliments, and with stimulants, delicacies, etc., etc. Oh! it was a blessed work to hand out these comforts and to have a steamboat of **140 tuns!** loaded down with them, to go to, and other loads coming. I can assure every one who contributed a dollar, or a dime even, that the things purchased with the money are adding *greatly* to the comfort of our faint, weary, wounded sons and brothers. I wish every one could participate in the blessed work of giving these things directly into their hands. How universal was the kindly feeling. Said one to me—as I offered him a cup of coffee (cooked in the large kettles hung on a pole in the woods, over a brush fire): "I am dry and hungry, having walked 10 miles without food or drink, but yonder are soldiers in those wagons worse than me, go help them *first*," and what he said almost every one else said. There was no selfishness any where shown. God bless the noble men....Here we have brought in addition to the above, farina, canned meats and fruits, etc., and after a little sleep we shall begin our labors. The cannon's boom, and the rattle of small arms through the day, at a little distance south of us, and the rattle of long lines of ambulances arriving, indicate that the work of carnage goes on....This is the longest and hardest day's work I have ever done—and the most grateful one—but I am scarcely weary. I go to sleep now, wet, but wrapped in a blanket on the floor—only because my judgment tells me it is essential. I have not put off my garments since last Saturday, and do not expect to for days to come. O. J.

Which is the Best Mower?

Do we know? Of course we think we do—but may we not be wrong? We beg the readers of the *American Agriculturist* to consider what the effect would be, if we were to tell what mower, or reaper, or horse fork, or hay cutter, or horse power or plow we really think the best—of course supporting the opinion by facts and reasons. We should not only run counter to the convictions of a hundred of respectable parties and their agents all over the country, each of whom thinks his own, or his favorite machine best—but we should cause a demand for the machines recommended, which the makers could not begin to supply. For even now they have more than they can do. We should prevent many of our readers getting any machine at all, perhaps, because they would hope to get the best, and in this they would probably fail. In addition to all this, we should lose credit with multitudes of our readers, because a great many of them use very good machines, which they think are best—and each has some peculiarity in which it is perhaps superior to most or all others. So all those with whom we did not agree would think we really did not know which was the best machine. So, as it would only be productive of harm if the opinions of the *Agriculturist* were expressed, we are content to advise our readers to investigate for themselves and act up to the light they have. The editors cannot even "privately" express their opinion or give their advice about these matters, as constantly besought to do.



The Ground Squirrel or Chipmonk.

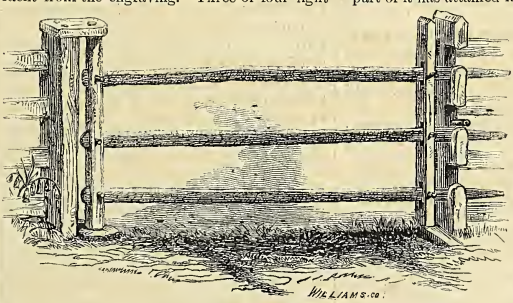
(*Tamias striatus.*)

In the March *Agriculturist* we gave an engraving of the true gopher, and now present one of an animal in some parts of the West incorrectly called gopher, but more generally known as the Chipmonk, Chipmuck, and Chipping squirrel, shortened to Chippy. These names are evidently derived from the peculiar note of the animal, which sounds like "*chip.*" It is found in most parts of the United States, though far South and West it is replaced by similar, though different species. The one under consideration has a body about six inches long, and a tail from three to four inches in length. It has capacious cheek pouches which open into its mouth and extend back for some distance. Five black stripes and two yellowish ones running lengthwise of the back, are among its characteristic markings. The hinder parts of the animal are brownish orange, and the under surface white. The sprightliness of the animal and the activity with which it eludes pursuit are well known to all who have observed it. It makes a burrow two or three feet below the surface, usually having long galleries leading to it. Here it accumulates supplies and passes the winter in families of several individuals. Some naturalists describe the Chipmonk as not being injurious to the farmer, but repeated observations show that this is a mistake. Lieut. J. R. Williams, of Venango Co., Pa. from whose excellent sketch the above cut was mainly engraved, writes that the specimen from which he made the drawing had three hundred and seventy eight grains of buckwheat in its cheek pouches. Lieut. W. says: "I have shot at different times three other specimens with their pouches full or partly so. One had two hundred and thirty three, and another three hundred grains of buckwheat. I opened a burrow which contained nearly half a bushel of buckwheat and corn, and one hundred and two walnuts. Some shocks of corn standing near had eighty ears completely stripped of their kernels." These figures show that when these animals are numerous they are capable of doing serious damage to the agriculturist and that they should be kept in subjection. They are readily trapped and may be caught in a common rat-trap, or destroyed by grain poisoned with strychnine.

A Good Man's Wish.—I freely confess to you that I would wish, when I am laid down in the grave, to have some one in his manhood stand over me and say: "There lies one who was a real friend to me, and privately warned me of the dangers of the young; no one knew it, but he aided me in the time of need, and I owe what I am to him:" or else to have some widow, with choking utterance, telling her children, "There is your friend and mine."—A noble wish this.

A Handy "Pair of Bars."

Some weeks since a gentleman called and asked permission to lay upon the show table of the *American Agriculturist* the model of a new style of farm gate or pair of bars. No name was left with the article, but it appears to be so simple and convenient that we have had it engraved. The construction must be perfectly evident from the engraving. Three or four light



GATE BARS.

bars of some tough wood, say ash, are inserted into holes in light strong posts, and secured by pins passing through both posts and rails. Through one, which we call the "hinge-post," the ends of the rails barely pass—through the other, the "latch-post," they protrude a foot or more. The hinge-post is secured in position close to one of the gate- or bar-posts, the lower end resting upon a stone having a socket drilled in it, (or through it, in case water is likely to stand in it,) to receive the end of the post, and the upper end being reduced in size and inserted in a hole in the projecting cap which is nailed upon the stationary post. It must be obvious that the latch end of the gate may be raised or lowered through an arc of several feet. Every bar shuts like a latch into the enlarged and opened bar-hole. When the gate is opened, of course it is *carried* round as far as it goes, for it does not swing at all, but the latch-post rests on the ground, and might indeed be conveniently placed upon a roller, if the gate be very heavy. When closed, a pin is inserted above one of the bars so as to prevent cows lifting and opening the gate. The advantages this style of bars possess are, that they can be opened and shut as quickly and nearly as easily as most farm gates; there is no sagging of the gate post, for no weight comes upon it, and the affair is easily and cheaply made wherever tough poles can be had. It is applicable wherever bars are placed which have to be frequently taken down, or where a gate is desirable, but is deemed too expensive because it would be so seldom used.

Labors in the Hay Field.

Every year changes the character of our labors in the hay field. Still the majority of farmers follow very nearly the old customs, and mow before the dew is off, or after it begins to fall, for several reasons. The severe labor of mowing is less fatiguing if done in the cool part of the day; during the heat of the day the hands are needed in curing, or hauling the hay; the labor is more easily performed when the grass is softened by the dew. These reasons are sufficient to settle the question of the time of day when mowing shall be done, with most farmers, and it is immaterial whether the grass be cut mornings or evenings. In fact during rainy or moist weather as much grass may be "got down" as can be taken care of when it clears, and it may lie in the swath some days without damage, if the weather continues wet.

Various kinds of grass mature sufficiently to cut at successive periods on land of the same quality. The crop may be diminished by too early cutting, and its quality hurt by cutting late. Grass ought to be cut when the greater part of it has attained its full size, and is well in blossom. Where many kinds grow together it requires no little experience to judge well, exactly when to put in the scythe. Grass cut ripe, is not only more tough and woody, and in danger of drying so as to be brittle, and waste when handled, but the hay is not so sweet or nutritious.—When cut with the scythe, the grass is left in swaths, which hold most of the dew so that a very little sun dries the ground. Guided by the dryness of the ground, the swaths are generally spread very soon after cutting, when this is done after 7 or 8 o'clock in the morning. It is much better, in our experience, to wait until the ground is not only dry but *warm*, before spreading. It is as important to know when to stop "curing" hay, or rather when to stop *sunning* it, as to know when to begin to cut. Hay cures better in the cock than it does in the sun. The juices of the grass if dried slowly become inspissated, that is, thick or *gummy*, without undergoing any perceptible change except a loss of water. If after the drying has commenced the grass becomes wet, a change takes place very soon, and this is seen in its bleaching if exposed, or heating if covered. This condition of inspissation, or gumminess of the juices, is attained much more easily

in grass cut before it is ripe than afterward, and the liability to such hay of heating or damaging by either rain or lying in close heaps is less. While the grass is still fresh, it will bear the hot sun and wilt rapidly, but after it has parted with most of its water it ought to be dried more slowly. This is effected in cocks which lie up loose, so as to permit a free circulation of air, and if hay-caps be used, the curing process goes on during the night or even during rainy days. It may be that the heaps do not really dry much after the heat of the sun is out of them, nights and rainy days, but the moisture in the greenest locks distributes itself through the rest of the hay and the whole mass becomes evenly cured. Hay caps ought not to cover more than the upper third of the cock—otherwise the ventilation is interfered with. If made of good unbleached cotton, a yard and a quarter square, they will afford sufficient protection.

In bright weather hay ought never to be spread thin or stirred much on the second day, but after getting heated through both by the sun and the action of the warmed ground upon which the cocks are opened, it should be thrown together in loose heaps to finish, and as soon as a lock wrung in the hands exhibits no moisture, and it has a good, sweet, hay smell, it may be considered cured enough to put up in cocks as large as can conveniently be made, capped and left thus one or several days to "sweat" before getting into the barn.—This we think is the surest way to get sweet green hay. Yet hay may often be cut and made in a single day, and housed before night, which if well salted in the mow will be good and sweet. It is more important to cure clover in cocks, than any other kind.

The mowing machine makes great changes in the labor, but not in the principles of hay making. 1st. The grass is not cut until the dew is off. 2d. It lies spread as thin as it stood, and needs little, if any, stirring—if any, turning with a fork, following the track of the machine backward, is most convenient. After three or four hours' sunning, the horse-rake will gather it into windrows, so that all that is cut before noon may be in cocks by 5 o'clock—before the dew begins to fall. If capped, it will endure a long siege of rainy weather. A few hours' exposure to the sun and air fits it for cocking up to sweat as before stated. This system dispenses with the "hay-tedder" or hay-stirring machine. Hay-loaders, though somewhat before the public, have not been sufficiently tested. Unloading horse-forks of sundry patterns all save much hard work, asthmatic torture and sweltering up under the ridge pole. There is a plan also for lifting the entire load at once—which, however, seems of doubtful utility. These contrivances for dumping in large masses of hay make the old hay knife convenient in getting it out again. Large mows ought never to be made without ventilating passages running perpendicularly through them once in 10 to 15 feet. A few 2-inch auger holes being made within a circle of 12 inches in diameter in the floor, a grain bag filled with hay is set upon them, and as the mow rises the hay is trampled hard around the bag and it is gradually drawn up.—The above principles applicable to securing the hay crop in the best condition, with some slight modifications answer for everything else grown to cure for dry fodder.

WHAT BECOMES OF THE NICKELS.—According to the annual report of the "U. S. Mint and its Branches," up to June, 1863, there had been coined 164,011,000 nickel cents, 47,845,000 of them during the previous year. When the specie paying time arrives, nickels will be plenty.

Sweet-Scented Vernal Grass.

The Prairie Farmer in giving a mixture of grass seeds found to answer well for pasture in New England, recommends that for the West, the Vernal-grass, among others, should be stricken out. We say don't do it. Haying time at the West is deprived of half its enjoyment, simply by the absence of this most fragrant grass. In New England the hay-field can be scented afar off, and it is this grass which gives the "sweet and wholesome odor" to the "harvest of the new mown hay." What if it is not very valuable as a pasture grass? Let us put in a little just for the poetry of the thing, if nothing more. But it is valuable. It gives flavor to the butter, and never crowds out more valuable grasses—but fills in between them if there is room for it to grow. Its seeds maintain their vitality so long in the soil that where it has once been introduced it springs up whenever sparseness of vegetation gives it a chance.

For the American Agriculturist.

Dry Fodder.

Too many farmers are in the habit of looking upon hay as the only dry fodder; for my own part I set a very great if not equal value upon corn fodder, well cured. I cut at the roots as soon as the kernel glazes, bind in small bundles, and when it is dry, house it if possible. Corn sowed for fodder, either broadcast or in drills, I cut when fairly out of blossom. At this time the stalks are not so sweet, but they are less woody than subsequently. If possible, we arrange to have our corn fodder sowed in a long strip, say two rods wide near a fence, so that when it is cut, it can be set up against the fence to dry. We have tried sugar cane (sorghum) in the same way, and like it much, but can express no decided preference. Some years ago I obtained some seed of what was called "Egyptian millet," and though you may say this is no name at all, for so many things bear it, yet it is the only one I could ever learn. The plant grew 6 to 8 feet high in good soil, sending up a multitude of suckers. The spikes of flowers appeared very late in the season, and I was never able to ripen seed. These spikes were like the heads of the cat-tail flag, but pointed and longer, the seeds being enclosed in a mass of short bristly hairs. It was very leafy, and the stalks not tough and woody like the sorghum. This was the most valuable fodder crop I ever planted, but since the war I have been unable to get seed, as it came from the South. Perhaps some readers of the *American Agriculturist* will be able to give information about it. The crop was treated in all respects like corn or sorghum sowed in drills.

Some of my neighbors sow peas for dry fodder, threshing them indeed sometimes, but often feeding the dried haulm, peas and all. The mildew which often covers the pea vines does no injury to the hay, but the mold which forms if the straw heats in curing, or gets wet after drying, renders it unfit for horses, for which, otherwise, it is excellent fodder. In this respect, however, pea straw does not essentially differ from any other dry fodder. Any of the kinds of fodder I have mentioned, may be sowed the first week in June. Peas however, ought really to be put somewhat earlier into the ground, but sowed thick and deep they will do well.

Millet I think may be sowed later than any other thing for a dry fodder crop. In ordinary seasons a fair crop of hay may be obtained, sowed as late as the 25th of July. It may thus be used as a second crop to advantage, following early potatoes, peas, or grain. The tax upon the soil or the manure in it is not great, for when sowed so late, it is cut soon after it blossoms, and before the seed forms much. Of late years I have not used millet largely, but when my hay crop was likely to be short, I tried Hungarian grass, treating it in the same way as I would millet (of which it is a variety), and have been well satisfied with results. HAY-SEED.

A Crop of Roots.

At no distant day a crop of roots upon every farm where live stock are wintered, will be deemed indispensable. Every year increases the number of those who cultivate roots extensively, and find it profitable. There are two convincing reasons why roots should become a staple production: First, animals thrive better in winter upon a mixed diet; second, more food per acre can be obtained with them, than with any other crop. The natural food of cattle is succulent. They can live and thrive on dry hay and grain, but they will turn greedily from these to an occasional feed of beets, carrots, or turnips, and the natural taste of animals is the best guide in the selection of their food. It is true that fifty bushels of corn raised on an acre of ground will give more flesh than four times the same weight of roots; but with fair culture *twelve hundred* bushels of mangel-wurzels can be taken from an acre, or the nutrient equivalent of this amount in other roots, as sugar beets, carrots, or sweedish turnips.

There are other minor advantages in root culture, which should be taken into account when estimating its profits. They draw but lightly upon the soil, and thus fills an excellent place in a course of cultivation on lands which have been too severely taxed. They also leave the ground clean and in the best condition for any following crop; and besides they give profitable employment at a season of the year when there need not be a great press of other labor.

Among root crops most valuable for stock we place carrots and parsnips; sugar beets stand next, mangel-wurzels and ruta-baga or Swedish turnips follow close, and when the season has advanced too far for these, English turnips will supply the place. These, particularly quick growing white turnips are better left until July.

Whichever sort is taken, the soil should be made deep and mellow. An excellent practice is to plow down to the depth of the soil (say 5 to 7 inches,) then follow with the subsoiler. A dressing of bone dust or superphosphate of lime harrowed in, will pay well; or well rotted yard manure lightly covered will not come amiss. Plowing at this season will destroy the early crop of weeds, which will add their substance to enriching the soil. About four pounds of carrot or six of beet seed per acre will be needed. Sow in drills thirty inches apart for mangels, sugar beets, or ruta bagas, and two feet for carrots. The work will be greatly facilitated by the use of a good implement for the purpose. Hoe as early as the rows can be plainly seen. There are seed sowers in the market which will make this much easier than when done in the old-fashioned way. At the first hoeing thin carrots or white turnips to six inches, and beets, etc., to one foot apart in the rows. After the first hoeing and thinning, the further culture of

weeding and keeping the ground loose can be almost wholly done by horse power implements.

The Tobacco Field.

It is to be presumed that whoever intends to plant tobacco this year, first prepared his seed bed as soon as the ground was in fit condition, and that by the first of June the tardy seeds will have come up and covered the bed with their soft little roundish leaves, lying so close to the earth that the warmth of the soil prevents their being injured by the frosts. A seed bed at this season usually presents a very uneven appearance, some of the plants having greatly the start of the others; and a late frost not unfrequently nips the larger plants while the little ones escape because nearer the surface.

The ground also was thoroughly prepared early in May or at about the same that corn land was plowed, having received, well spread, 8 or 10 cords of good manure, turned at least 8 inches under. During the month of May it may have been necessary to drag the field once or twice to destroy the weeds, but at any rate at about the first of June, or as soon as corn and potatoes are planted, it will be time to plow again and prepare the land for the crop. If the tobacco planter thinks it desirable to still further enrich the soil—which is best unless it is in very good heart, warm, rich and mellow—it may now be done in one of several ways. A dressing of 2 to 4 cords of fine compost, hog or sheep dung, or any fine manure, may be spread from the tail of the cart or wagon, and plowed in. Wood ashes may be sowed on alone, or mixed with gypsum (plaster). Superphosphate of lime (home-made), or any of the compounds found in market under the name of superphosphate, may be used also, as may guano, castor pomace, poultry house manure, etc. Spread or sow evenly, plow in and harrow. If the supply of manure is not quite so large as is desirable, or if the soil be heavy, or not so warm and light as would be preferred, it is often best to plow and harrow, first taking care not materially to disturb the manure turned under at the first plowing, and it may be worth while to roll the land so as to break the lumps. Such manure as is at hand may then be put in, in drills 3 feet apart, and covered by the hand hoe. The hills or places where the plants are to be set out, may be prepared at the same time, 2½ feet apart, by mingling the manure with the earth with a few strokes, and then compacting the soil a little by a blow with the flat of the hoe. Thus the moisture will be better retained.

The ground should thus be finished by the first week in June—at furthest before the 15th. The plants may be set out as soon as a sufficient number are large enough. The common rule is, when the largest leaf will reach across the palm of the hand, or, has a width of two, or a length of three inches. The plants are treated in transplanting much like any others: well watered some hours before moving from the seed bed; lifted with the least possible injury to the fibrous roots, (much soil can not easily be moved upon the roots.) The plants, which are handled by closing the leaves together in the fingers, are laid in hand baskets, and distributed to the planters not much faster than they can be set out, unless the air is very moist or rainy. The soil ought not to be so wet as to be soggy, but transplanting is best done after a rain has moistened the soil, and when continued moist and cloudy weather is looked for. A plant is laid at each hill; the planter takes it in the left hand, holding it as before stated, without soiling the leaves, and with the right hand makes the hole, not packing the soil. This may be done by using a carving knife, or a thin blade of wood, a trowel, or his fingers. The hole should be so deep that the root need not be bent, yet not so deep that the entire hole may not be easily and surely filled, when the earth is closed about the roots. This should be done by inserting the knife or blade into the ground near the hole and closing it up, then pressing the soil at a little distance around the plant firmly downward, and at the same time toward the roots. Care and deliberation, that every thing be done well, pays by saving labor in replanting. If the ground be moderately moist, no watering is necessary, but should the sun come out or the day be clear, the young plants should be immediately covered either with short fresh grass, or better with straw or hay chopped up 1½ to 2 inches long, and thoroughly wetted. Should any plants fail, their places must be immediately supplied, that they may grow uniform.

The cut worm must be very closely watched, or on some land a great proportion of the plants will be sacrificed. It may usually be found as close to the surface as the ground is moist, very near the scene of its depredations. It is said the worm prefers corn to tobacco, and so if corn be sown over the field in time to have a growth of 3 or 4 inches at tobacco planting time, the worms will take it instead of the tobacco. It of course would be best to watch daily for some time before and after the planting, in order to kill as many worms as possible. Should any readers of the *American Agriculturist* try this plan, we hope they will report results.

Our pamphlet on "Tobacco Culture," costing only 25 cents, contains a great deal of very valuable information, and will be of use to every cultivator whether he be experienced or not.

The Hoe and How to Use it.

No implement upon the farm will be more useful than the hoe, during the present month. Much can be done with the cultivator, and wherever the crop and the nature of the ground will admit of it, horse labor should be substituted for hand labor. In many places however the presence of stones or other obstructions, and rows of growing plants standing near together, require the use of this old-fashioned implement. Much labor can be saved by having the hoe of proper construction. It should be made of good steel properly tempered, that the edge may neither turn nor break, and not be too heavy to be handled with facility. Any one who has attempted to work with the weighty, cumbersome contrivance commonly used upon southern plantations, will prize the sharp light implement of northern manufacture. The handle should be just large enough to grasp readily, and inserted into the blade at a convenient angle for working, or so that it may be easily used for cutting weeds near the surface, and for drawing earth around a hill. It should always be kept bright, and to do this, care must be taken to wipe it clean and dry after working in wet soil.

Every one knows the importance of using the hoe to keep weeds in subjection, but in too many cases this knowledge is not made practical. Other things being equal, clean culture will give at the least twenty per cent better returns than when weeds are left to draw the nourishment which should go to the crop; with corn this would make a difference of eight to ten bushels per acre—enough to pay well for several hoeings. Let this fact stimulate the neglectful to keep the hoe busy during this weedy month. Another less obvious but equally important benefit conferred by frequent use of the hoe, is keeping the surface of the ground loose. This is needed for growing plants either in wet or dry weather. In the former case, the surplus moisture evaporates more rapidly; in the latter, the moisture from below is attracted upward, and also the warm atmosphere being allowed to penetrate the cooler soil, deposits the vapor contained in it. If culture be needed after the roots have extended over most of the ground, the hoe should be used very lightly so as not to disturb them, or more harm than good may be done.

Manure Spreader.

Mr. E. G. Storms of Montgomery Co., N. Y., describes a manure spreader which he finds very effective, and which he wishes us to record for the readers of the *American Agriculturist* before somebody patents the idea. His directions for making and using it are as follows:

Take a two-inch hard wood plank 8 feet long by 8 inches wide, and along the center bore a row of two-inch holes, 10 or 12 inches apart. Into these insert branches of trees, of proper size, allowing the brush to extend 6 or 8 feet from the plank. [Rather short—but perhaps if longer the plank would bear too lightly on the ground.—Ed.] Fasten the ends of a chain near the ends of the plank and hitch the horse or horses to the middle of the chain. A long shallow box may be fastened on top of the Brush drag, to carry off loose stones, or for the driver to ride on if necessary. If the manure is not in too large piles, [small piles and near together—Ed.], it will not require spreading by hand. It should be drawn in continous paralell lines and the machine driven across the rows of heaps. It seems almost impossible that a contrivance so simple should accomplish the work so effectually. The lumps of manure are generally "pushed" along several rods, leaving a fine, evenly distributed coat on the whole surface.

The Use of Oxen in Horse Powers.

Practical men of our acquaintance prefer to use an ox instead of a horse in the common stationary horse-powers, which work by means of an endless belt of wooden blocks on an inclined plane. It is said to be easier to break an ox than a horse to work steady; that his weight and naturally moderate gait adapt him to this work. The horse is more nervous and spirited, likely constantly to vary his pace and making a great deal harder work of it than is necessary. There should be considerable caution used in introducing the ox to his novel position and initiating him into the mysteries of "travelling all day in a peek measure," and going, but not getting along. The thing to be particularly guarded against is his attempting to jump out. The head yoke described in April *Agriculturist* would find a convenient application in this case, but a half yoke and bow, or a breast collar would do well. The labor is not severe if continued for a moderate time; but it is cruel to work horses day after day in these treadmills.

A LIE is the handle which fits all sins.

EDITORS should be able to live cheaply, for they very often get *bored* (board) for nothing.

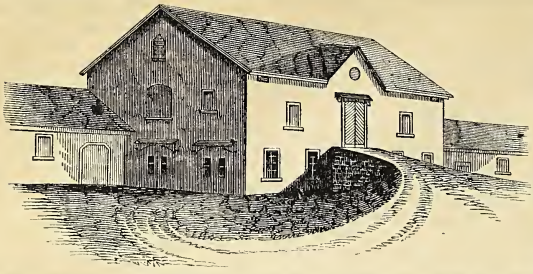


Fig. 1.—ELEVATION, OR PERSPECTIVE VIEW OF NORTHERN AND EASTERN SIDES.

An Excellent Barn Plan.

The accompanying plans and elevations are from a barn just erecting at New Castle, Westchester Co., N. Y., by Drs. Reisig and Hexamer. The plan was thoroughly studied during the winter—the size determined, each floor planned, and each room and door located. Having been consulted repeatedly, we have watched the completion of the plan and the progress of the building with interest, and think we can not better serve the interests of the readers of the *American Agriculturist*, than by explaining it in detail.

The main part of the barn is 60x40 feet, 3 stories high, and on each side is a wing 25 feet wide and about 100 feet long. The barn-yard is about 260 feet long, and at each end connected with the wings, are open sheds, the south one being used for compost and manure. **Fig. 1,** is a perspective elevation, showing the northern side, and eastern end of the main building. The approach (*D*,) to the great doors is over the ice-house (*I*, in the plans.) *E*, fig. 3, is the shute through which the ice is put in. **Fig. 2,** is the elevation of the southern side toward the barn-yard, with large doors to afford easy access to the root, fruit, and cider cellars.

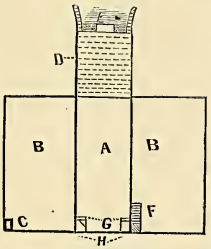


Fig. 3.—HAY AND GRAIN FLOOR.

Fig. 3, shows the hay-floor and bays—the threshing floor (*A*,) being 15 feet wide, and the bays on each side (*B.B.*) 22 feet. At the rear of the floor are shutes (*H*), for hay and cut fodder, which discharge in the feed room on the lowest floor. At the same place there are also two smaller shutes (*G*,) for grain, etc., which discharge into the bins (*S*, fig. 4,) on the 2d floor.—**Fig. 4,** is the second floor. There is a drive-way (*N*,) through the barn, in which are trap-doors, one, *P*, communicating with the fruit and cider cellar, large enough to raise and lower casks through; the others (*O, O,*) for discharging roots into the root cellar. *M*, is the carriage house, not separated from the passage way. *L*, is a fruit-packing room, lighted on the western and northern sides, and connected with a cool room (*K*) through which is an entrance to the ice-house. The Lofts in the wings on each side are above the stables, etc., seen in fig. 5. The stair-ways all over the barn are designated by *F*, the inclined planes for horses and cattle to pass up and down by F^1. *R*, indicates the feed room, in which are 4 bins marked *S*; each shute (*G*) from above leads to either of two bins; and at *W, W*, are four other tin-lined shutes, each a foot square, which lead to the feed boxes, in which the feed is mixed. These "shutes" or leaders are arranged so that the farmer can fill them up with a measured quantity of grain and feed, then lock his feed room door, and still know exactly how much of each the men use.

A work-shop (*Q*,) is provided, 18x12ft., in which work benches and vices, wood, iron and plumbing tools will be kept and used. In one corner the chimney, *C*, rises from the cook-room beneath, and a stove, the pipe of which enters it, is indicated by a circle near the chimney, and in the opposite corner there is a closet 4 feet square. At the near end of the cattle wing, *Z* marks the herdsman's room, entered directly from out of doors, but communicating with the stable floor by a trap-door, and steps not seen in fig. 4, but indicated in fig. 5. On the right of the feed room, and conveniently accessible from all parts of the building is the tool room, (*X*,) where all small implements have their place. Near this room the stairs (*F*,) go to the upper floor. *Y*, is the harness and saddle room, where the better class of harness, etc., is kept; that used for common work is hung up in the stable, or under the horse stairs (F^1). The stairs adjoining the harness room descend to the stable floor. The long dotted lines indicate the roadways, which are not fenced, but underdrained and well made, so as to be hard at all seasons.

Fig. 5, is a plan of the stable floor and cellars, yard, manure pit, etc. The fruit and cider cellar (*A*,) is entered through the root cellar (*B*). This room is 25 feet square, lighted by a sash in the partition. Opening out of it is a cool cellar (D_1) 12 by 6 ft., for preserving grafts and cuttings, hanging a side of beef, or any similar purpose. *E*, is a room 60 by 13 feet in which the feed is prepared for the stock of all kinds. The hay shutes (*H*,) from the upper floor discharge here, and as there are two, different kinds of fodder can be thrown down without the trouble

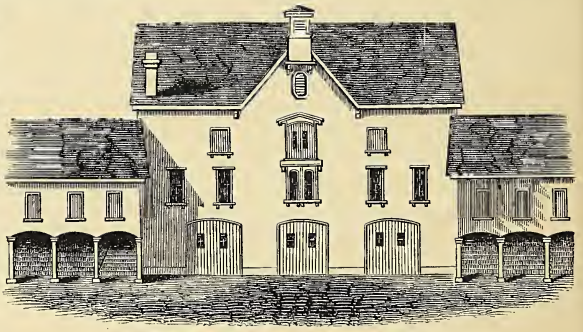


Fig. 2.—ELEVATION OF SOUTHERN SIDE.

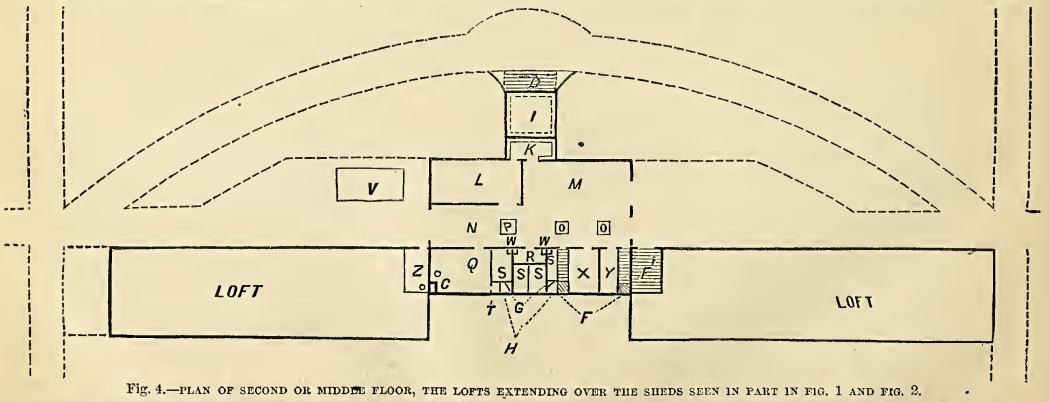


Fig. 4.—PLAN OF SECOND OR MIDDLE FLOOR, THE LOFTS EXTENDING OVER THE SHEDS SEEN IN PART IN FIG. 1 AND FIG. 2.

consequent upon having but one, of moving the heap of one kind before the other can be thrown down. At *G*, the grain shutes discharge; the

boxes beneath them, and the fodder troughs (*K*,) also, are upon castors, and may easily be moved any where. *M*, is the boiler, and standing near it, indicated by a small *o*, is the penstock and water trough. Another hydrant and trough stand near the pond in the yard. The feed boxes where the fodder is prepared, may be wheeled the entire length of each wing in

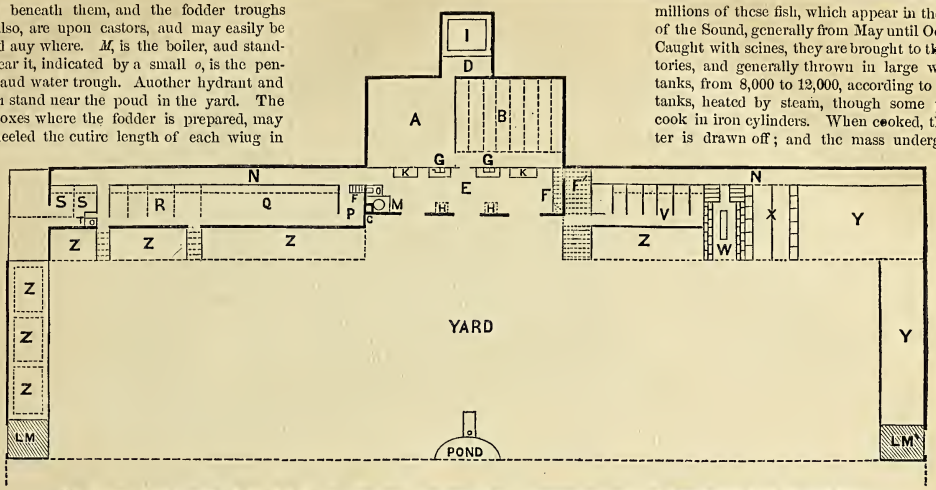


Fig. 5.—PLAN OF LOWER OR STABLE FLOOR, CELLARS, AND THE YARD, MANURE PIT, ETC., ON THE SOUTH SIDE OF THE BARN.

the 5½ foot passage way (*N*). In the left hand wing, *Q*, indicates the cow stable, 12x40 ft. *R*, stables for oxen and calf pens, 12x27 ft. The hog pens (*S*, *S*,) each 8x10 ft. and communicating with open yards each 12 ft. square, are close by the manure and compost sheds. *T*, is a privy.

In the opposite wing are the horse stables (*V*, 13x32 ft.) and loose box. Beyond these, and thoroughly separated from the stable by a tight partition, is the hen-house, (*W*,) 12 by 31 feet. The plan though on a very small scale, shows the construction. The front is glass; on each side are rows of nest boxes; in the rear are the roosting ladders, and in the middle a dry pit to contain ashes, etc., 3 feet wide, and so deep that the hens can throw nothing out. Next the hen-house are the apartments for ducks and geese, designated by *X*, which applies to both. Beyond (*Y*, *Y*,) are sheds for carts, plows, etc., or which may indeed very conveniently be used for young cattle or sheep, or for foddering cows in the yard. In the passage way (*N*,) shutes are placed at convenient places, so that green fodder may easily be thrown down to the stock from carts passing along the roadway, on a level with the second floor. These stables are therefore adapted to soiling. The space in the rear of the stalls, (*Z*, *Z*, *Z*,) is a manure pit, into which the dung and litter is daily throwu, when the stables are cleared out. The three *Z*-*s* enclosed in dotted lines show the places for compost or manure heaps, situated under a shed, and at different levels so that liquid manure pumped up and carried over them will drain off. The letters, *LM*, in the corners of the yard, indicate liquid manure tanks, each of which takes the drainage of half the yard, the highest part of the yard being a line from the barn to the water trough at the pond. These tanks are located at points where the manure may be conveniently drawn off into water carts, or by hose directly upon the fields lying on a lower level.—The small building marked *V*, in fig. 4, is a corn crib, 12 by 20 feet, on the grouud.—One of the most important characteristics of this plan is that it is adaptable to farms of almost any size. For a small farm the main building would suffice without the wings. The fruit and root cellars being made smaller, room would be afforded for the cattle and horses, where the cook room, etc., are above provided for. In order to accommodate a larger number of animals all that is necessary is to extend the wings, even carrying them across the ends of the yard where the open sheds *Y* and *Z*, are represeuted. This would at most only involve the erection of open sheds for manure, etc., in the centre of the yard. It has been a study to save steps, to have things so arranged that each man can attend to his own business without being interfered with, and the whole easily "under the eye of the master."

Fish Manure—Fish Guano.

One of the means we have of getting back from the sea the fertility which flows into it from every hill-side and meadow, from every country ditch and city sewer, is to use the fish for manure. The time will never come when so little fish food will flow into the sea from our rivers and harbors, that fish will not multiply prodigiously along our coasts. Though it is true that in many parts of Europe where there used to be good fishiug in the streams, the sportsmen complain that since the farmers have taken to thorough-draining, and scrupulously saving the wastes of the farm, the good fish have uearly if not quite all disappeared.

First amoug the fish used principally for manure in this country, is the *Alosa menhaden*—commonly called Bony fish, Menhaden, White fish, Moss Buuker. From time immemorial they have beeu taken in very large quantities along our coast, carted directly upon the fields, spread broadcast and plowed in, dropped in or on the hill for coru, composted in various ways, and subsequently applied in quantities of 7,000 to 15,000 to the acre. More recently the pricc of oil has made it profitable to take them for this product, and hundreds of factories have sprung up on the shore of New-Jersey, in many of the bays and inlets of the Sound, and further East. The fish decay very soon after coming from the water, hence these fish-oil establishmeuts load the breeze with odors not of "Araby the blest" to the great disturbance of many a city man who has located his country seat near the sea.

A correspondent from Southold, L. I., communicates to the *American Agriculturist*, the following facts on the subject of this industry.

"Some 8 or 10 Factories on the east end of Long Island, work up yearly between 30 and 40 millions of these fish, which appear in the Bays of the Sound, generally from May until October. Caught with scines, they are brought to the Factories, and generally thrown in large wooden tanks, from 8,000 to 12,000, according to size of tanks, heated by steam, though some parties cook in iron cylinders. When cooked, the water is drawn off; and the mass undergoes a powerful hydraulic pressure. After extracting all the oil possible, the residue is partly dried aud run through a picker, a revolving cylinder with iron teeth cutting it fine, then wheeled to a sheltered building in large heaps. Some years ago sulphuric acid was sprinkled over, but farmers objecting to it, the practice was discontinued. My opinion is that the acid retained much of the ammonia which otherwise, in the heating process which the fish goes through, evaporates. Farmers speak highly of this fish fertilizer. The most valuable is turned over 3 or 4 times to evaporate the moisture, giving the buyer the most of the fertilizing substance; it is used in drills for corn, etc., or sown broadcast for wheat, oats, etc. It looks but reasonable that this fish fertilizer should be very similar to Peruvian guano, the latter being the deposit of seabirds living mostly if not entirely on fish. The manure contains a great deal of phosphate of lime and much ammonia, either ready formed or remaining in the meaty part."

The nets are sometimes drawn upon the sand and large quantities of it adhere to the fish, and subsequently constitute a notable proportion of the manure. Recently, however, deep-water fishing is practised, the fishermen going out in small vessels. The habits of the fish allow nets to be drawn around the "schools" and gradually contracted until the lower edge of the deep net can be drawn on board, and the fish thus secured are scooped out of the net into the vessels. In this way they are perfectly clean.

Home-made Poudrette.

"William," whose profitable use of the contents of the privy vault is noticed in the April "Basket," sends at our request, an account of his process. The vault of his privy is a watertight cistern holding 500 gallons, and fitted with a lid for removiug the contents. Besides the usual accumulations, the chamber slops are emptied here—amouuting from a family of 3 to about 350 gallons a year. To manufacture the poudrette he makes a layer of soil shaped slightly concave like a saucer; this is covered with a layer of night soil, on which is placed a stratum of charcoal, and over this a layer of forest leaves. Then another layer of earth, followed by night soil, etc., as before, and so on until the contents

of the cistern are used up. All the absorbing materials are made as dry as they can be by sun heat, and kept under cover until wanted for use. This heap is allowed to remain a few days, when with a spade it is cut up and thoroughly mixed, and again thrown into a heap. The absorbents are used in such proportion as to give about 12 gallons of night-soil to the barrel of poudrette. Our correspondent values manure made in this way at $2 per bbl., the price at which he sold a part of his stock; and values his whole product from 350 gallons of night soil at $63 50. Poudrette made in this way, has, he says, been used along side of that sold in the market, and was found to produce better results.—We have given several plans for utilizing night soil, any of which will answer, and we can not too often or too strongly impress upon our readers the importance of saving all solid and liquid manures, human or other.

Corn as Food for Stock.

Indian corn is not well adapted to feed all kinds of stock at every stage of growth. The changes of season and variation of climate are such that domestic animals like men thrive best upon a variety of food, changed according to circumstances. Corn contains, in large quantities, those principles which when taken into the animal economy produce fat and generate heat; hence for fattening animals, and maintaining animal heat during winter, it excels all other grain. It is heavy and hearty food, and when fed in large quantities requires strong digestive powers. To make it the chief food of young and growing animals, which require a diet rich in bone- and muscle-forming principles, is poor economy, unless they are fed for market. English and Scotch farmers understand this fact well, and they feed large quantities of oats peas and beans to promote growth and strength. Corn makes poultry fat and plump, but they do not lay so well as when fed partly upon oats, barley, rye, wheat and buckwheat. My experience has again and again proved that high corn feeding is too hearty and stimulating for cattle. Oxen can be forced to perform much labor and cows will yield a richer and larger quantity of milk upon a generous supply of corn meal, but it eventually affects their health. For fattening cattle however, this practice is advisable. To keep cattle in a condition of sound health through their natural length of life, corn meal should be fed sparingly.

The horse can bear, and requires, richer food than the ox when at labor, yet corn is not the grain under all circumstances. His days will be shortened by continuous high feeding upon it. The evil effects of such a course are seen in a dull eye, dry skin and rough coat. Its tendency is to heat roadsters, particularly in warm weather when they are likely to be overheated by exercise, and it gives a tendency to lay on fat, when a diet that goes to simply repair the waste of muscle is needed. When giving horses cut feed was first and so strongly recommended, the practice was generally adopted. But stage owners and others found their horses failing quicker upon it, than upon oats. Now, oats and old hay fed dry with carrots only are advised for horses subjected to fast driving. The bad effects of meal are not so apparent upon draught horses, whose motions are always slow. Still, for this class, oats given whole or ground with corn, or some similar feed is much better. "Fine Feed," bran or shorts, counteract the bad effect of meal in part, and are advantageously used with cut feed; using a mixture of about one part bran to three or four of meal.

In those states where hay is a leading crop, and a variety of grains are raised, there is not that inducement to feed out corn exclusively, that exists at the South and West, where corn is the great staple. It is difficult to see why Southern planters keep their horses almost entirely upon a grain so heating and hearty, when the climate naturally requires a diet of an opposite nature. Owners of horses living in cities, and who buy all their keeping, are too often influenced by the fact that corn is the cheapest grain in market. True economy in feeding stock lies in giving them that food best adapted to their wants. It is not intended by the foregoing to ignore the value of corn; but it seems to receive among our grains a higher value than it deserves, except as a fat producing diet. If a few years of scarcity and high prices lead to an inquiry into its merits, and in finding good or better substitutes, nothing will be lost in the end. N. S. T., *Essex Co., Mass.*

A Word from an Old Sheep Raiser.

The present prices obtained for wool, and which are likely to continue for a number of years, have induced many farmers to invest in sheep, and no doubt a great many inexperienced farmers will "have the wool pulled over their eyes," as the saying is, and in a few years abandon the whole thing, jumping into the next current of high prices in something else, forgetting that "*Care is the mother of Luck.*" The great art in raising a flock of sheep is to secure for them sound healthy *constitutions;* and next to this it is important to get the largest amount of wool on a given surface. To accomplish these ends, care is required in selecting your breeding ewes. A judicious, fine-wool farmer will reject all long-legged and bare-faced ewes, selecting only short-legged, wool-to-the-toes, and wooly-faced ewes, well built and "heavy set." A ewe can not be relied upon as a kind and good suckler before the age of three years; at the age of four years she may be considered in her prime, and her strong and vigorous constitution is imparted to her progeny. The reason why we have so many ill-shaped, and unproductive flocks through our entire country is the hap-hazard, careless manner of too many of our farmers in selecting their breeding ewes; they have a certain number of ewes, yearlings, two-year-olds, three, four, and indeed often up to twelve and fifteen-year-old-ewes. The season arrives for "turning in," and without any thought about his business, the careless farmer expects to raise a flock of healthy, hearty lambs, simply because he is following in the way his father went before him. UPPER ST. CLAIR.

Stirring Hay—Conflicting Views.

American farmers at the present time are inclined to look favorably upon any plan for lessening or dispensing with manual labor upon the farm. Hay can be made and housed the same day by letting the grass get pretty ripe, cutting it early and "keeping it in the air"—that is, frequently turning it—all the hottest part of the day. Hay cut before it is ripe and containing little or no clover, may be cured in the same way, and if well salted in the mow may remain sweet—but the practice we think can not be habitually followed with the best results. The *Hay-tedding machine*, is a very efficient help to farmers who practice the system of often turning and thoroughly drying the hay in the sun. The only hay tedder that we know of which has been successfully used in this country is the one Mr. Herring advertises. The operation of this machine is very simple and complete, it tosses up the hay by means of spring forks which move like grasshopper's legs—and it falls lightly and evenly spread. Every lock is shaken out in a twinkling, and every individual straw is exposed to the air. Hay thus worked dries with extraordinary rapidity, and is quickly brought into that condition which a majority of farmers consider most desirable. It is the general testimony of those who have used it that on any good hay-day they can, before dew-fall, get in all the grass cut before 10 or 11 A.M.

Admitting this to be true, the question is still an open one whether the hay made thus quickly is worth as much as that cured in the cock. Perfect hay is green and fragrant, soft and pliable, the clover even should remain green and hold its leaves which should be soft and not brittle; there should be not a particle of mold or dustiness, neither should the hay be excessively salted; one barrel to 20 tons being all sufficient. In another article we have given a system whereby such hay may be uniformly secured.

It is not a matter of speculation which hay is best; but it is a fact that hay cured in the cock is much the best, especially clover or hay in which there is a notable quantity of clover. Still the question of profit, involving weather-risk, labor, quality of hay, should be thoroughly considered by every farmer. A dollar uniformly saved in making a ton of hay becomes at once a very important item of farm profit.

Late Planting of Corn.

At the present writing there is every promise of favorable weather for getting in the corn crop early; many will doubtless be in too great haste, and by planting too soon have to replant, but others will through press of work and scarcity of help find June upon them, and some corn not yet in the ground. It is not too late for the quick growing sorts like the R. I. Premium and the Improved King Philip to mature; indeed they frequently give a better crop than that planted early in May. It is well where this is done, to give the seed a rapid start by manuring in the hill with guano, superphosphate of lime or some other stimulating manure. Care must be taken to keep such compounds from contact with the seed, otherwise it may be injured or destroyed. It will pay well to go through fields already planted and replace all missing hills. *

Breeding Horses.

The tempting market which is at present open for all kinds of horse flesh has led we fear to the sale off the farms, of mares valuable for breeding, the loss of which will be seriously felt by and by. European governments who from experience of numerous wars and the necessity of always being able to obtain horses for war purposes at short notice, take care that those which, being in use by the military, are withdrawn from productive labor, are not mares. These are left upon the farms. We are satisfied that no kinds of stock will pay to raise better than horses at present prices, and we have many inquiries on the subject.

The horse breeder should be guided by the fundamental principle that *like produces like.* That is, good colts will come of good, sound, healthy mares and sires. The judgment of a

small farmer or of any one who has not a large stud of breeding horses is first exercised in the selection of mares from which to breed. In very large establishments the selections of stallions, suitable to the purposes for which the horses are bred, is of the first importance. Constitutional unsoundness is apt to be hereditary. Broken winded mares seldom breed, and when they do, the foals show a predisposition to the same difficulty. Of course no animal suffering from chronic disease should be allowed to breed. There are many defects which are the results of accidents, and these do not interfere necessarily with a mare being a good breeder. Spavin, ring-bone and all enlargements and diseases of the bones are considered constitutional. Curb, bad feet, and "break downs," though less likely to recur in the progeny, would lead a careful breeder to reject a mare at once. Roaring is also liable to be reproduced; and defective sight and hearing unless from obviously accidental causes, ought to cause mares or stallions to be rejected as breeding animals.

The mare therefore should be sound, deep in girth, "roomy," without being "pot-bellied," with a wide deep pelvis, the back straight and strong, the ribs set well out, giving the barrel strength and rotundity, and the tail ought not to be set too high, which though handsome is apt to be associated with a contracted pelvis. Further than this, the more style and beauty she has, the better. "Spirit and quality from the *sire*; size, beauty and constitution from the *dam*," is the horse breeder's motto, and it rests upon established physiological principles.

The Stallion ought to be of less size than the mare, of good temper, courageous, willing, docile, sound, well knit as to muscles and sinews, of quick and sound perceptive faculties, (hearing, sight and smell particularly). He should have a bony head, clear eyes, and broad open nostrils, a straight short back and straight rump, high withers with a broad chest and loins. The shoulders should be sloping, the barrel round and well ribbed back. The legs muscular to the hocks and knees, but bony, flat, hard and smooth below. When possible we advise breeding from a thoroughbred stallion, and otherwise from those showing the most 'blood.' As a general rule it will be found true that the sire especially influences the nervous energy, perceptive faculties, endurance, spirit, muscular and motive power, and the coat of the progeny —in short those parts most intimately connected with the brain, spinal-marrow and nerves of sensation and motion;—while the influence of the dam upon the constitution, vital force, the digestive functions, and all those parts governed chiefly by the involuntary nerves, or located near them, is so frequently observed that she should be selected with this distinctly in view.

A Word for the Blue Jay.

The Blue Jay is usually considered a mischievous bird, but Mr. Geo. B. Cone, Washington Co., N. Y., thinks it more than pays for its board. He has noticed these birds for nine years, and finds that although they steal a little corn through the opening of the crib, they busy themselves in picking off the eggs of insects which are glued to the twigs of fruit trees. They stay around the orchard all winter, and he is quite willing to give the half bushel or so of corn they eat, in return for services they render in removing the clusters of eggs. Mr. C. says that during the nine years that he has allowed the Jays to be unmolested, there has been scarcely a caterpillar's nest seen in his orchard, while the trees of his neighbors have been infested and nearly ruined. He considers the Jay one of the farmers' best friends. Mr. Cone says that the crow is a great enemy to the jay-and is always on the lookout for a chance to destroy its eggs and young.

Care of Sheep in June.

After settled warm weather when the water is warm and cold storms of wind and rain are no longer to be feared, but not before, the careful flock master makes preparations for washing and shearing his flock. The views of the *Agriculturist* in regard to the evils of washing sheep were expressed in our last issue. Sheep well cared for and coming through the winter in good heart, will bear shearing quite early, and a determined stand taken by sheep owners not to submit to a deduction of *one-third* on good clean unwashed wools, will bring manufacturers, and speculators too, to fair terms. There is a great deal in putting up wool well to attract the eye of the buyer. He expects the farmer to roll his fleeces so that only the best part will be seen, and trusts his own acuteness of sight, smell and handling to discover fraud, dirty tags, dung, etc.; and buyers will generally do it too, and then farewell any hope for a high price for that lot of wool.

Whoever shears many fleeces, should have a fleece press. This consists of a strong box about 4 feet long and 12 inches wide, inside measure. The width may be decreased sometimes to advantage if the fleeces run small, by putting in a false side of inch board on one side or both. One end of the box is movable, the other fixed, and both consist of three perpendicular pieces, strongly braced on the outside, and set a quarter of an inch apart. The movable end is upon a foot piece to which the braces are attached, and which slides under cleats upon each side. This end is moved up toward the other by means of a strap which lies upon the bottom of the box, passing under the stationary end, and round a strong axle or drum, which is turned by a crank. It is drawn back by another strap, the crank being turned the other way. The fleeces are folded in the usual way—laid outside up, the sides folded in, edges to meet in the middle; then the tips and scraps of wool are laid in and the fleece is folded again lengthwise. Strings are placed in the press, lying in the slots in the ends. The fleece is then laid carefully in and pressed into a square mass and tied. The use of cotton twine in tieing, hurts the sale, for shreds of cotton mingled with the wool may damage the color of some fabrics.

Some lambs ought to run with the flock for two or three weeks at least after shearing. The ticks will all or almost all leave the old sheep and go upon the lambs. Then the lambs should be dipped in a strong decoction of tobacco, soaking every part of the fleece. Randall recommends the English practice of using arsenic water. "3 lbs. of White Arsenic pulverized are dissolved in 6 gallons of boiling water, and 40 gallons of cold water are added." The fleeces of the lambs are wrung out as dry as possible after dipping, while they lie upon a dripping board, which is made of slats near together and supported above a tight inclined table which allows the liquid to flow back into the dipping box. A flock may thus with comparative ease be cleared of ticks. Precisely the same operation is a cure for scab, but more thorough rubbing in of the liquid into the affected parts is desirable.

Pigs—What to Do with Them.

Over a large portion of the West, the pigs, those that are left of them, have had a very hard time. The country was bare of corn, pigs starved to death or were killed to prevent starvation by thousands, and grass was very late in starting. Where there is now good grazing for the herds of swine they will do very well, and on the open prairie great numbers of them may be herded by one or two men with dogs to assist them. There are articles of food long overlooked at the West which in many localities may be very profitably used. Beef scraps, which are compressed in such hard cakes that there is no decomposition, if broken up fine or soaked and boiled, form a very nutritious article of food. The same is true of almost all animal waste which does not readily putrify. Hogs do very well turned upon grain fields after they have begun to grow well in the spring. A rye field will support 6 to 12 head per acre according to size, from the first of May to the middle of August, with very little of any thing else. When it is possible to feed pigs grain in small quantities daily during the spring and summer so as to keep them growing and in prime order, it is surprising to see how they will outstrip others not so fed when corn glazes, so that general feeding begins.

Pigs confined upon the manure and compost heaps, or in small yards for the purpose of making manure, of course ought not to be "tamed" or "rung." The amount of weeds, sods, muck and litter of all kinds that they will convert into manure of first rate quality, may be stated within bounds at 5 cords per shoat of not less than 4 months old in March, provided it be under cover, and the raw material be judiciously supplied during the season.

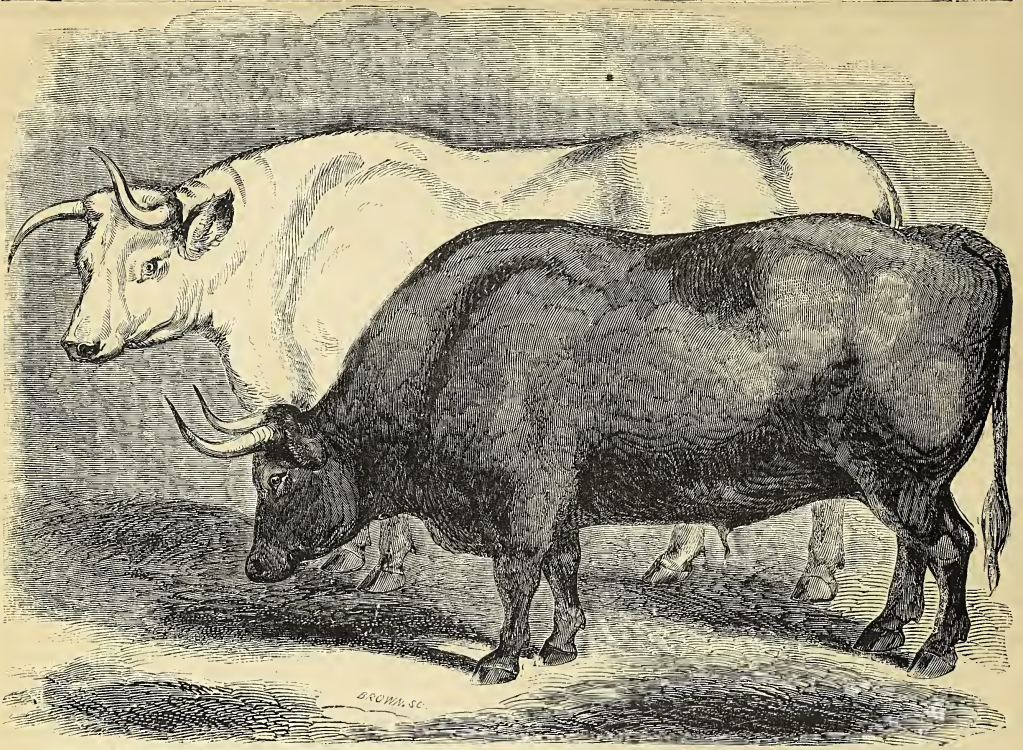
White Bullock "Pride of Livingston."

LETTER FROM HIS FEEDER—W. G. MARKHAM.

"Pride of Livingston" was sired by bull Goldfinder, out of a three quarters Durham cow, owned at the time by Wm. McKensie of Livingston Co. Goldfinder was a white bull brought by J. W. Taylor from Kentucky, I think from the herd of Mr. Duncan. The steer was calved in May 1857, purchased by M. Downing of Livingston Co., in 1858, who kept him until the fall of 1860, when I bought him at 5 cts. per lb., weight 2100 lbs. He had never been fed grain of any account until I got him, after which he ate an average of 15 qts. meal and one bushel roots daily during the winter. In the summer while on grass he ate but 8 qts. meal and no roots. The meal fed was of corn, barley and oats in rotation.

He weighed in April 1861, 2,450 lbs.; April 1862, 3000 lbs.; April 1863, 3,380 lbs.; March 21st, 1864, 3,602 lbs., which I am lead to believe is the heaviest on record. He was always a hearty feeder, and very active. Fearing there might be some dispute about his weight, I had several of the most reliable men in town present, who saw him weighed accurately. Messrs. Beckwith (supervisor of Avon, and on the Committee to purchase the steers) and Shepard and myself made affidavit of his weight.

I exhibited him at the N. Y. State fair at Rochester in 1862, when he was awarded the 1st prize as "Best fat ox." He was familiarly known by a very large circle of acquaintances as the "*Genesee Valley Baby.*" The Livingston Co. people dub him the "Pride of Livingston."



THE MAMMOTH OXEN AT THE METROPOLITAN SANITARY FAIR.—*Drawn and engraved for the American Agriculturist.*

The ladies of the Livingston County Soldiers' Aid Society purchased the magnificent white bullock "Pride of Livingston" for $1000, and included it among their gifts to the Ladies' Metropolitan Fair held in this city in April, thus adding greatly to the interest and materially to the income. The weight of the animal sworn to by responsible parties was 3602 lbs., and he is 7 years old. He was fed by Mr. W. G. Markham of Rush, N. Y., a letter from whom will be found on the preceding page. From his appearance, size of bone, shape of head and horns, etc., we should call him a "Kentucky Durham." He has not taken on fat very uniformly, especially on the fore quarters, and will in our opinion bear another year's feeding, for he is more active, clear eyed, and healthy looking than any animal we ever saw that approached his weight within 300 pounds.

The other, the "Tompkins County Ox," was given by the ladies of that county. His weight was stated as 3556 lbs.; but this was arrived at by measurement and not by actual weighing, as we believe. The weight of the bullock will probably not exceed 3400,—however, this is very handsome. The fat is still less evenly laid on than upon the white one, and he is not so good a handler—but in fineness of bone, head, etc., he is superior. Being 7 years old, though of good constitution and in good health, it is not worth while to make the attempt to give him a greater weight. The engravings above represents these animals very well. They stood separate in large, well littered, loose-box stalls, fed well, and of choice remained standing much of the time. The white bullock is the heaviest beef animal of which we have any accurate record. Others have been exhibited as weighing 4000 pounds but the statement has never been substantiated by any good testimony.

Milch Cows—Good and Poor.

A good cow is one adapted to the kind of agriculture that prevails where the cow in question is kept. Many of the readers of the *American Agriculturist* value a cow only because she bears them a good healthy calf every spring, suckles it a few months, exercises a cow-discretion in not straying from the herd nor wandering away from its usual haunts; whether she gives 4 quarts of milk a day or 20, it matters not, provided her calf has enough. This estimate of the cow prevails wherever young or beef cattle are the only salable products of the herd. There are many more who value a reasonable amount of milk and make use of it to a considerable extent in making butter and cheese for home use, and perhaps for sale, with whom the cow's chief value is to multiply the race.

As we come toward the network of railroads and canals which cover great sections of our country and place the agricultural regions in such close commercial relations with the great markets, we find milking qualities more and more valued, so that in the great butter and cheese regions, and especially among the milk dairies it becomes the only valued product. The calves are knocked in the head at birth, and their skins only saved. The only ones that escape this fate are the heifer calves of famous milkers; and though it by no means follows that these take after their dams in milking qualities, but oftener perhaps, *after the dam of their sires*, there are yet notable instances of close resemblance *in all respects* between famous old milkers and their heifer calves which has run through many generations of cows and almost of men.

We can expect to raise good milkers only by breeding from bulls that have come of excellent cows—very queens of the milk pail. These are to be found among the breeds famous for milking—the Ayrshires and Jerseys—or among certain strains of the Devons, which often exhibit excellent milking qualities. The only admissible excuse for any body's breeding from grade or common blood bulls, is that they are used to perpetuate if possible the extraordinary milking qualities of their dams. The influence of the dam upon her offspring as regards milk production, is a subject upon which agriculturists need more light. Select calves for rearing from the best milkers, but invariably use bulls from good milch stock.

When the question with the dairyman is how to get a stock of cows that will give him the best returns in milk from a given quantity of feed—we say, go about the country and select the best cows you can find without reference to any thing but soundness, age and milking qualities—(*quantity* and *richness*—one, the other, or both). If it be desirable to develop the milking qualities of heifers, without regard to the other points—let them become mothers early—milk them thrice in a day, stripping each time very clean—feed succulent and rich fodder, and while the animal is still growing, in every way promote a strong tendency to milk production.

What is Inside of a Plant.

The series of articles under this head was interrupted by the crowd of other matter last month. Those who have followed them attentively will recollect that it has been shown that the plant in all its parts is made up of cells varying in shape and size, but in all cases exceedingly small, and that all of them are closed, having no visible openings. It is evident from what has been said that the growth of the plant consists in the increase in number of these cells, and this is accomplished by the division of cells already existing. There are some plants of very simple structure, whose growth can be watched, and they give a good idea of the way in which cells are multiplied in all plants.

F. 1.—PLANT OF ONE CELL.

Some kinds of green scum from fresh water pools are found, when seen under the microscope, to be a mass of very simple plants, so simple that each one consists of only a *single cell*. Fig. 1, shows one of these plants, a single cell filled with green matter. In time the green contents of the cell divide, as in fig. 2, a cell wall grows over each part, the old cell containing them breaks away and two plants come forth, each of which, after growing to the size of the original, repeats the multiplying operation. At fig. 3, a similar plant is shown dividing into four. In this simple plant we have in the first place the division of the cell into two or more, and afterward the growth of these small cells to the size of the original. All plants increase in size thus—the already formed cells subdividing and those newly formed in this way growing to the size peculiar to the kind of plant. As there are ordinarily many millions of cells contained in the space of every cubic inch, it is evident that in quick growing plants they must multiply with wonderful rapidity. Before taking especial notice of the contents of the plant cells it is well to consider the manner in which liquids pass from one cell to another. We know in a general way that the roots take up liquids from the soil, and that these are conveyed to the leaves where they are evaporated and otherwise greatly changed before they are fitted to contribute to the growth of the plant. From what has been seen of the internal structure of the plant we know that there are no long tubes or veins, for the movement of the sap, as many suppose, but its whole circulation consists in a transference of the liquid from cell to cell. Though the microscope shows no opening communicating between adjoining cells, yet their walls will allow the passage of liquids. There are several forces at work to cause the rise of crude sap into the tissues of the plant, one of which is evaporation. That this goes on at a large rate is well established by experiment; a sunflower three feet high has been found to evaporate nearly a quart of water during the day. The amount which passes off from the leaves by evaporation must be supplied from the root. Some idea of the part which evaporation plays in causing the rise of liquids in the plant may be had from a simple experiment, shown in fig. 4, which represents a small

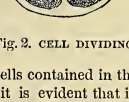


Fig. 2. CELL DIVIDING.

Fig. 3.

funnel with its neck drawn out into a long tube. The mouth of the funnel is covered with a piece of bladder, both it and its tube being completely filled with water; it is then placed with its lower end dipping in mercury and supported in an upright position. Evaporation will go on from the surface of the bladder and as the water passes off in this way the mercury will rise to supply its place and in time fill the tube. Mercury we know to be fourteen times heavier than water, and, as we have not space to state the reason of this rise, we may say, in language which, though not scientifically accurate, will answer our purpose, that the force of evaporation has lifted an ounce or more of mercury through a space of several inches. Another and peculiar force is at work within the plant which may be briefly stated thus: when two liquids of unequal density are separated by a membrane through which they can pass, they tend to mix, but the light liquid passes through the membrane into the dense one much more rapidly than the heavy liquid passes into the light one. This force, called *osmose*, can be illustrated by an experiment with the long tubed funnel of figure 4. Over the mouth of the funnel a very thin piece of bladder is tied, and the funnel part is filled with molasses and water, and then set in a vessel of pure water as in fig. 5. We here have the lighter water, separated from the heavier syrup in the funnel by means of the bladder. The flow of the water through the membrane into the funnel will be much more rapid than the flow of the sweetened water out of it, and the consequence will be that the liquid will rise in the tube. This ascent of the liquid will take place through several feet of tube and if this is bent over as in the figure, the liquid will flow out in drops. This action will continue until the contents of the funnel and of the vessel become of equal density. Now let us imagine a single series of minute plant-cells extending from the leaf to the ends of the roots of the plant. We have here a great number of small closed bags containing liquid, the upper ones of the series being in the leaf where evaporation can take place, and the lower ones in contact with the soil. By evaporation the contents of the uppermost cells will become thickened and a flow will set in from the cells just below them: and as the density of the contents of these cells changes they will draw upon those below, and evaporation alone will be sufficient to set a flow in an upward direction. To this is added the force of *osmose;* where the contents of adjoining cells are of unequal density, there is as we have already seen a powerful tendency of the two to interchange. There are other conditions, such as the chemical nature of the cell contents which modify the transference of the liquids from one cell to another which can not well be stated here, but from what has been shown of the internal structure of the plant and the illustrations of the effect of evaporation and *osmose* here given, it will be evident that the juices of the plant are transferred from one part to another in obedience to very simple physical laws.

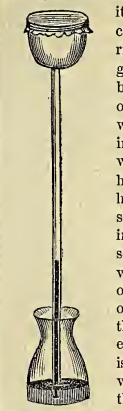


Fig. 4.—EVAPORATION.

Fig. 5.—OSMOSE.

How do Flowers Become Double?

The question is frequently asked of the *Agriculturist*, how this or that flower "can be made to bloom double." There is no way in which double flowers can be produce at will. There are natural tendencies in many plants to become double, and these manifest themselves in two ways; one is the production of two or more petals in the place of one, and another is the readiness with which stamens are converted into petals. An illustration of the fact that the last really takes place, may be seen in a half-double rose, where stamens may be found in the transition state, so to speak, that is part stamen and part petal. Fig. 1, is a rose stamen, fig. 2, a petal, and fig. 3, a stamen that is half of each. Many other double flowers will afford interesting illustrations of this kind. In the Composite-family to which the Aster, Dahlia, Marigold, Sunflower, etc., belong, what usually passes for a flower is in reality a collection of numerous small flowers gathered closely into a head. There are in most plants of this kind cultivated for ornament, two sets of flowers. Those in the center of the head of a single one of those noted above, are small and tubular, with small teeth at the top as in fig. 4. The flowers on the circumference of the head are much larger and instead of being tubular, are flat and ribbon-like as in fig. 5. This is just as if fig. 4 had grown larger and been split down on one side, and then spread out flat. The doubling of flowers of this kind consists in the conversion of the flowers like fig.4

Fig. 1.—STAMEN.

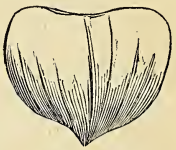


Fig. 2.—PETAL.

Fig. 3. HALF PETAL.

Fig. 5.

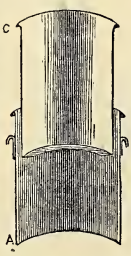
Fig. 4.

into those like fig, 5. These changes or sports take place in some plants in the wild state, but they are more likely to occur in cultivated ones. When a tendency of this kind is noticed, the

seed of the flower should be carefully saved, as it is very probable that the change will be even more strongly developed in the offspring.

Transplanting and Transplanters.

With many plants it is absolutely necessary that they should be transplanted. They are so small in their young state that they would be quite lost if the seed were sown where the plant is to remain. We therefore sow a great number of seeds in a small space where they can be cared for during their early growth, and when the plants attain a sufficient size they are set where they are to grow. Besides this, it is often a positive benefit to the plant to remove it; the original roots are shortened and induced to throw out numerous fibrous roots or feeders, and its time of maturity is hastened. There is no doubt that many of the plants of our gardens, such as all the cabbage tribe, celery, etc., are much improved by the root pruning they receive in the ordinary way of transplanting; and, in the flower garden, Balsams, Asters, and the like, take on a much better shape and give much finer bloom than if allowed to flower where the seed was sown. On the other hand, there are plants so impatient of removal that it is difficult to transplant them successfully—such as all the Squash-family and Okra among vegetables, and all members of the Poppy-family, Bartonias, etc., among flowers. The time for transplanting is during the early growth of the plant, usually when it has made three or four "rough leaves," as the gardeners call those which succeed the seed leaves. When moved at this time, the plant recovers much more readily than if left until later. Want of success in transplanting is less frequently due to the injuring of the roots by breaking than to their drying. Where seedlings stand very thickly in a bed, it is not practicable to take them up with earth around the roots; they must be separated and then to keep them from drying it is well to "grout" them. This operation—by some called puddling—is very readily done: it is only necessary to mix any soil with water to the consistence of cream, and draw the roots through it so that they will be covered with a coat of thin mud. Plants with their roots thus protected may be kept out of the ground for a long time without injury. It is sometimes necessary to remove plants after they become too large to transplant with safety in the ordinary way, and several implements have been contrived for effecting this, as well as the transplanting of those which are slow to recover after being disturbed.



F. 1. TRANSPLANTER

Fig. 3.—TRANSPLANTER IN USE.

One of the commonest of these is like two rather strongly rounded trowels so arranged as to be put in the earth, one each side of the plant, and then to be fastened together and the whole lifted. Another device is represented in the figures. It was invented and is used by P. & J. Ten Eyck, of Middletown Point, N. J. The apparatus is made of sheet iron and of a size convenient for the work to be done. Fig. 1 represents a section of the transplanter. *A*, is a cylinder with a sharp lower edge, having a rim at the upper edge, and convenient handles; *c*, is a similar cylinder moving within the first, and having on its lower edge a flange, about ¾ of an inch wide. This apparatus is first used to make the hole to receive the plant. It is thrust down into the soil with a slight twist. The outer cylinder will penetrate while the inner one will be pushed up. Then by lifting the apparatus the earth it contains will be removed with it, and can be forced out by pushing down the inner cylinder. The same operation is then repeated with the plant, the outer cylinder being pressed into the soil around it, the plant and the surrounding earth lifted, (as in fig. 2,) and the whole transferred to the hole; by holding the inner cylinder firm upon the soil around the plant the outer one may then be slipped out with very little disturbance to the roots. The transplanters to be carried to a distance after being filled, may be set on a board or in a box.

Watering Newly-set Trees and Plants.

Where the soil is rich, deep, and well tilled, and if the planting is done in moist or showery weather, there will seldom be any need of watering. But if really necessary, proceed as follows: Just before setting out the tree or bush, prepare the hole of a generous size, pour water into it and leave it to settle gradually away. Then set in the tree, spreading out the roots and covering them with the best soil at command. This done, mulch the surface with leaves or straw, laying over the whole a few flat stones. A tree or plant of any sort so managed, will seldom need any after-treatment. But if the soil is poor and light, and the season is dry and hot, it may be necessary to help the tree along. Take off the mulch, and three or four inches of the soil, and pour in as much water from which the chill is removed, as is needed to soak the ground, then put back the earth and the mulch. Once or twice during an ordinary season, will be as often as this treatment will probably be needed.

If trees are watered directly on the top of the ground and with no mulch, the soil bakes hard like bricks, and is worse than no watering.

What is Endive?

A subscriber in Kansas, and others inquire what Endive is, and how to cook it. Endive is own brother to the Chicory, grows from seeds and makes a large flat tuft of leaves the first year, and if the roots are kept over, flowers and bears seed the second season. It is not cooked as a general thing, but is used as a salad, though the Europeans sometimes cook it. Its great value consists in the fact that it may be had in mid-summer and later, as it grows well at the time when lettuce will not flourish. Sow in drills a foot apart, and thin or transplant to the same distance each way at any time until August, according as it is wanted early or late. The present month will do for the main crop. As the plant is very bitter it must be blanched before it is fit for use. Blanching consists in excluding the leaves from light and is most simply performed by gathering the outer leaves in the hand and tying them together by the tips over the center of the plant. Another and very excellent way is to invert over the plants good sized flower pots, each having something laid over the hole to exclude light. The tying up or covering should be done when the plants are free from moisture. In 10 to 15 days the leaves, all except the outside ones, will be found to be white, crisp and tender, and deprived of most of their bitterness. To those who do not dislike a slight bitterness it is an acceptable salad.

Training the Tomato.

Some gardeners think that the best way is to let them alone, allowing them to spread over the ground. They maintain that the heat of the soil hastens the maturity of the fruit. In field culture this must be done, but where there are but few plants it is well to train them on small twigs or pieces of brush stuck in the ground around each plant. This exposes the foliage and fruit to the light and air better than when sprawling in a dense mass on the ground. And the fruit is kept clean. Some make a cheap frame, say two feet high, about each plant or extending along on two sides of a row of plants, over which the branches may be trained as they grow. Drive in crotched stakes two feet high and about six feet apart, on each side of the row, and then lay poles (old bean-poles will answer,) from crotch to crotch. While the plants are small, prop them up with small twigs, and when they reach the poles draw the vines over them. This plan exposes the vines to the sun and makes convenient picking, and keeps the fruit clean.—Persons who have time and patience, may make frames like ordinary grape trellises, and tie their vines to the bars. This makes a handsome show from August to October. The plant if pinched in when young and and made to grow compact will be more self-sustaining, and fruit earlier and better than if allowed to grow at will in the usual way.

Sweet Potatoes at the North.

The success which has attended our own experiments as well as those of friends and correspondents, will warrant those who have not made a trial of sweet potatoes to do to so with a fair prospect of a remunerative crop. Some who failed in their first experiment have denounced their culture as impracticable, but there is no doubt that the successes largely outnumber the failures. At this late day, the plants must be procured from those who have started them. Any good warm and rather light soil will answer. The ground must be highly manured and ridged; this is done by marking out rows running north and south, at distances of three feet. Spread barn-yard manure or rich compost along the marks, and then form ridges by throwing two furrows together. The ridges may be finished with hoe and rake, and should be about 10 inches high, a foot wide at bottom, and 3 or 4 inches wide on top. Plant as soon as cool nights are over—from 10th to 25th of June. Mark off the top of the rows in spaces 16 inches apart, and set the plants in up to the first leaf, and press the soil well around them. In dry weather water the holes before setting the plants. Where there are many plants to put out, one person may make the holes, a boy drop the plants at them, and one or two others follow to set them. It is best to plant on a cloudy day. The ridges should be kept clean of weeds, and the vines occasionally moved to prevent them from rooting at the joints.

The Virginia Fringe-Tree.

(*Chionanthus Virginica.*)

Among our larger shrubs, there are few less known, but more worthy of culture, than the Virginia Fringe-Tree. Though a native of Southern Pennsylvania, Virginia and Kentucky, it is perfeetly hardy in New England and Central New York, and possibly further north. It is of rather slow growth, but in good soil it thrives and grows reasonably fast, and is handsome even when small. The leaves are large, six to eight inches long and three broad, oval-shaped, and dark green. We remember seeing a fine specimen near Albany a few years ago. It was about eight feet high, and a globular mass of rich foliage from the ground to the top. Its flowers hang in profusion in long narrow clusters. The petals are usually four (sometimes five or six) very narrow and about an inch long. The general fringe like effect of the flowers has given to it its common name; the botanical name comes from the Greek *Chion*, snow, and *anthos*, a flower, in allusiou to their snowy whiteness, or it may be to the appearanee of the earth when the petals fall, as they eome to the ground in such quantities as to cover it with a snow-like carpet. The plant is also ornamental when in fruit; it bears little stone-fruits somewhat like small plums, which have a dark purple eolor, and are not eatable. The tree is especially suited to the lawn or front yard. Plants are sold at the nurseries at about 50 cents each; they are raised from seed, and with some diffieulty from layers, and by budding upon the common European or the White ash. It makes a handsomer plant when worked on an ash stock. The figure represents a branch of the Fringe-Tree reduced in size.

Pinching the "Laterals."

The advice is often given in articles upon grape culture to "pinch the laterals," a direction which is perfectly plain to a few, but one which to the great majority, needs explanation. When the shoots of a vine push in the spring, they elongate with great rapidity, but after a while small side branches begin to start from the axils of the lower leaves at first, and afterwards from the leaves above them; these are the "*laterals.*" If the whole is left to itself there will be at the end of the season a main stem or cane, bearing numerous branches, which are strong near its base and weaker toward the end. In all good systems of training, these laterals are removed in order to direct all the energies of the plant to perfecting the main eane, and not allow them to be diverted to maturing a number of useless side branches. The operation of pinching the laterals is a simple one, requiring only the use of the thumb and finger, but it is one which must be performed at the right time, and in the right way. If one makes an indiscriminate onslaught, and breaks out every lateral without regard to any rule, he will do his vine a great injury. In order to show what the laterals are and the manner of treating them, a cut has been borrowed from Mr. Fuller's excellent new work on Grape Culture. The figure shows

two joints of the vine; at the upper one a lateral, *d*, is shown as just starting; this is allowed to grow until it has developed two or three leaves when it is pinched back to one leaf. Soon after another shoot may start from the base of this leaf which is allowed to grow as the first, and this is then to be pinched back to a single leaf. At the lower joint in the figure a lateral is shown which has been pinched twice; *a*, shows where the shoot was removed at the first pinching; the second pinching was at *b*, and a third shoot is shown as just starting which is to be pinched off at *c*. At the base of the lateral, a bud, *f*, is shown which is to produce the growth of next year. If the lateral were rudely broken out this bud might be injured, or if it were pinched too close, the bud would probably push into growth and the prospects of the vine for the next year be seriously damaged. Hence one leaf is always left at each pinching. This work is to be continued throughout the summer upon vines of whatever age, or however trained, if good well ripened wood is desired.

Notes and Queries on Grape Culture.

Origin of the Creveling.—P. M. Goodwin Esq., of Kingston, Pa., who some years ago sent out the Creveling to his horticultural friends, referring to the account given of its origin, on page 50, February *American Agriculturist*, says: "I have lately made two visits to Bloomsburgh, Columbia Co., Pa., and called upon Mr. Andrew Creveling by whom the following short but reliable statement was made. Mr. Creveling is a gentleman of wealth and respectability, and is held in high esteem by his neighbors. 'His father John Creveling, who had married a Miss Moore, moved from New Jersey to Bloomsburg about the year 1787, and the vine was found in the forest and transferred to the farm in 1791 or '92. The farm is one mile from the town of Bloomsburg, and contained originally 300 acres, but has been divided and is now the property of the brothers Andrew and Moore Creveling.' Andrew the elder brother is now probably about 65 years old, and capable of giving a correct history of the origin of the grape. He says his father has often talked with him about it. The original vine although three-fourths of a century old and considerably dilapidated, is still alive and bearing every year. It is on that portion of the original farm now owned by him. The people of Bloomsburgh are exeeedingly jealous of any attempt to steal from it its original title of the Creveling grape. There are Creveling vines in Bloomsburgh from the original, said to be 30 to 40 years old, so that the story of its having been brought into cultivation only 20 years since is simply absurd. The Creveling has been badly treated in its native place, and yet is said to bear well and is highly valued."

Norton's Virginia.—Doctor J. G. Zeller, of Woodford Co., Ill., writes that he can not agree with Mr. Husmann respecting the hardiness of this variety. (See page 114, April *Agriculturist.*) During the severe cold of last winter his vines were eutirely destroyed, while his Concords, planted elose by, had the wood uninjured though three-fourths of the buds were destroyed. He thinks that the buds of Norton's Virginia will stand a lower degree of cold without injury than will those of the Catawba and Isabella, but when the weather is severe enough to kill the wood of the last named varieties, that of the other will be destroyed also. Dr. Z. agrees with Mr. H. as to the healthy and productive character of Norton's Virginia, and its value as a wine grape, and adds the advice we have often given to lay down the hardiest varieties every winter.

In NAVIGATION we ought to be guided by the pilot; in LIFE by those of better judgment.

It is better that the foot slip than the tongue.

The Bloodroot.
(*Sanguinaria Canadensis.*)

In the rich woods and along shaded banks may be found in April and May one of our prettiest wild flowers, the Bloodroot. It is a pity it has such a sanguinary name, for it is a modest and peaceful looking flower, and one always welcomed with the Spring-beauty, Dog-tooth Violet, and other heralds of the floral season. The flower rises from an underground stem upon a leafless stalk, and is accompanied by a single leaf arising from the same place. It is curious to see how this leaf tenderly encloses the flower-bud as if afraid to trust it to the rude treatment of the fickle season. At last the flower breaks away from the protecting leaf and opens its pure white petals, which seem too delicate to last long and soon fall away. The engraving shows the plant of natural size at flowering time. A fully expanded flower is given and a bud as it first appears above ground. The calyx is of two sepals which fall off as the flower opens, and the petals are usually eight in number, though they show a tendency to increase, and it is not unusual to find twelve or even more. One meeting with the plant a few weeks after flowering would hardly recognize it as the same, as the leaves increase very much in size and take on a coarse appearance much unlike that worn in early spring. The seed vessel which follows the flower is shown in the engraving, of natural size. Upon breaking any part of the plant an orange red juice flows out. It is from this that its botanical name, *Sanguinaria*, was given—*sanguis* being the Latin for blood. This juice is particularly abundant in the underground stem, or root as it is popularly considered. All parts of the plant are acrid to the taste, and are possessed of emetic and narcotic qualities. The "root" is used in medicine and is an article of trade among the druggists. The principal object in calling attention to this plant is to advocate its introduction into the flower garden. It bears transplanting well, and under cultivation shows a tendency to become double. A small bed devoted solely to it would be effective in early spring, or it may be grown in the border with crocusses and other spring bulbs with which it would give a pleasant contrast.

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A LONG SLEEP FOR A ROSE BUSH.—R. L. Shrock Esq., of Sullivan Co., Mo., set out a Cottage Rose in Oct. 1862; the stem remained green all the following year, but failed to show a bud or leaf. In March 1864, he pulled up the bush to replace it by another, and found shoots two or three inches long springing from the root. The plant had remained dormant for nearly 17 months, and Mr. S. asks if we have known a similar case. Under favorable circumstances, plants retain their vitality for a long time. Of some apple stocks we once buried in a cellar in autumn, a few were accidentally left there and were only found on digging to bury some more a year afterward; they were then just pushing out shoots from their dormant buds. Probably the rose-bush cited carried on a slow vegetation during the year, its green bark supplying in a measure the place of leaves.

APPLES IN IOWA.—Thos. Paddington, gives the following list of varieties he has found to do well in Linn Co., Iowa. Carolina Red June, Sweet June, Summer Queen, Summer Rose, Benoni, Red Astrachan, Summer Pearmain, Fall Orange, Fall Wine, Sweet Russet, Maiden's Blush, Porter, Yellow and White Bellflower, Red and Small Romanite, Rome Beauty, Danvers Winter Sweet, Hubbardston Nonsuch, Pryor's Red, Fameuse, Ladies Sweet, Jonathan, Monmouth, Pippin, Northern Spy, Pomme Gris, Minister, Raule's Janette, Talman Sweeting, White Winter Pearmain, Wine Sop, Roman Stem.

Chives or Cives.

(*Allium Schænoprasum.*)

This humble member of the onion genus is one of those old fashioned things which but few think of planting, but which is always acceptable in its season to those who are fond of onions in any form. It is perfectly hardy, being found growing wild in the vicinity of the great Lakes and northward; it is also a native of Europe. The small onion-like bulbs throw up early in spring their tufts of small cylindrical leaves, and later in the season a small umbel of flowers. The plant multiplies very rapidly by the root, and like many other plants which do this, the chives, in the cultivated state at least, have only barren flowers. The engraving shows the plant of about two thirds the natural size, and it will be seen that it is very much like a miniature onion. There seems to be some disagreement as to which of the two English names given above is the proper one, but the weight of authority is in favor of Chives. The young and tender leaves are the part used, and they are much prized by many to flavor salads, soups, omelettes, and for any other purpose for which onions are used. They are sometimes eaten dressed with vinegar in the same manner as young onions. This is a favorite vegetable with the Germans who call it *Schnittlauch*, and use it in a variety of ways, one of which is to chop it very fine and sprinkle it over buttered bread. Its flavor is more delicate than that of any variety of the onion, and where needed merely as a seasoning may in most cases be substituted for it. Chives are propagated by setting small clusters of the bulbs at distances of six inches, in rows a foot apart. They are sometimes set as edging to paths in the kitchen garden, and are well adapted to this purpose. Whether the leaves are needed for use or not, the plant should be cut over frequently to keep the growth young and fresh. In a few years a single bulb will multiply to form a clump six or eight inches in diameter. At the fourth or fifth year after setting, the clumps should be taken up and the

CHIVES OR CIVES.

planting renewed.—This is one of the things, not usually kept at the seed stores and nurseries but may generally be found in old gardens.

Preserving Flowers in their Natural Form.

Several have inquired of the *Agriculturist* how this is done. The details of the process are kept secret by those who practice it as a business, but the general facts are well known. Very fine beach or other sand is used as the drying material; it is prepared for use by washing it until the water no longer comes off turbid, it is

then thoroughly dried and heated and allowed to cool. A common flower pot with the hole stopped up, or other convenient vessel is partly filled with the sand and the flowers are stuck into this; more sand is then added so as to cover the flower. Great care is needed in this part of the operation, and the sand should be filled into and around the flower so that it will be supported on all sides, and all warping or crushing avoided. The pot is filled up with sand and the whole set in a warm place until the flowers are dry. It will require from one to two or three days according to the nature of the flower; the proper time for each can only be determined by experiment. The flowers should be free from dew or other moisture and the sand perfectly dry when used. It is best at each operation, to heat the sand quite hot and allow it to become cool before using. Flowers dried in this way are exceedingly brittle and must be handled with the greatest care. They are usually made into bouquets or wreaths and placed in a glazed frame or put under glass shades.

THE HOUSEHOLD.

The Best way of Preserving Fruits.

The old-fashioned method of preserving fruit by boiling in sugar, 'pound for pound,' is rapidly giving way to the improved plan of sealing in air-tight vessels. By the former process a rich but almost flavorless compound is made, admirably adapted to test the digestive powers, and the cost of the sugar required is no small item. By the latter method the natural taste of the various fruits is mostly retained, the healthfulness unimpaired, the cost far less, and the trouble no greater, if so great. After our experience of half a dozen years, we find bottling fruit much less work than "preserving" it, while it is cheaper and far better every way.

Fruit bottles and jars of several patterns are in the market, some of which possess considerable advantages. We have used the Youman's, the Potter & Bodine, and other bottles, and found them good. Tin cans are objectionable, being liable to rust, and at best lasting but one or two seasons. Porcelain or earthenware will keep fruit well, but glass is better as it admits of readily examining the contents. Although the bottles made especially for the purpose are much more convenient, they are not absolutely necessary to the preservation of fruit. Any vessel that will allow of the easy introduction of the fruit, and of the entire exclusion of air, will answer. We have kept strawberries and other small fruits perfectly, the year round, in common junk bottles, corked and sealed tightly.

Fruits of every kind to be kept in this way should be ripe or very nearly so, sound and fresh. In a very short time after picking, fermentation commences, and there is loss of flavor, and the difficulty of preservation is increased. A porcelain lined kettle, or tinned vessel is preferable to brass for cooking, although the latter will answer if it be first thoroughly cleansed. Only enough sugar to sweeten the fruit for table use need be taken. Even this is not necessary to the preservation of the fruit, as it may be well kept by simply scalding in water and then bottling. But we think it preferable to add the sugar at the time of cooking, as it then becomes better incorporated with the fruit. Make a syrup by boiling one to two pounds of sugar to a quart of water. More water is needed with fruits containing little juice, as pears and quinces, and less with such as peaches, berries, etc. For berries we have simply taken a quarter of a pound of sugar to one pound of fruit, with just enough water added to keep it from burning. When the syrup is boiling pour in the fruit, which will of course cool it somewhat; let it come to a boil again, and cook about five minutes, or just enough to scald it through, and then immediately dip it out into the bottles which should be filled. Cork the bottles as fast as filled, or screw down the covers, if patent arrangements are used. This should be done while the contents are as hot as possible, as then the small space which remain unfilled, will be occupied by steam, and as this condenses on cooling, a vacuum will remain. Only a little air left would be sufficient to cause fermentation and spoil the preserves. For ordinary bottles, stoppers of compact soft cork are best. They should be soaked in hot-water before using, so that they may be crowded in closely. Force the cork in a little below the top of the neck, and then fill the remaining space with cement made of 1½ ounces of tallow to 1 lb. of rosin. Additional security is given by inverting the bottles and dipping them into a tin "patty-pan" partly filled with cement. These will prevent the stoppers being forced in by the pressure of the air when the contents of the bottles cool. In place of the "patty-pans" small blocks of wood partly bored through to receive the cement, will answer every purpose. Care must be taken to have the bottles well heated before introducing the boiling contents, otherwise many will be broken. To do this, partly fill them with water set them in a vessel of cold water upon the stove and let it heat to boiling, while cooking the fruit.

Where it is desired to keep fruit without sugar, put it in bottles, fill them with cold water, and loosely put in the corks, which should be long and soft, and previously soaked in hot-water. Set the bottles in cold water, and heat it up to boiling; let it boil five or ten minutes. Then with a mallet, or other convenient implement force the corks in deep and tight, wire or tie them down, and the work is done. We have seen strawberries and other fruits kept in this way for more than a year.

Hints on Painting.

S. D. Welsh, Esq., of Wyandot Co., Ohio, a practical painter, sends to the *Agriculturist* the following hints, useful to those doing their own painting: "In opening a keg of white lead, break the head in with a hatchet, or if it is desired to save the head, with an old chisel extract the tacks from the upper hoops, drive them up, take out the head and replace the hoops. The paint-can may be a tin pail (or an old oyster can) with a strong wire bail and a wire hook attached, by which to hang it to the ladder. With a strong paddle take from the keg and put into the can enough lead to one-third fill it; pour oil enough over the lead to about cover it, and mix them thoroughly; after this oil is well incorporated with the lead, fill the can with oil, putting in a little at a time, and stir constantly while adding. When ready to apply, the paint should be about the consistence of rich cream. It should be tried on some inferior part at first and made thicker or thinner, as needed. If too thick, it will not work right under the brush, but incline to be sticky or tough. If too thin, it is apt to run, has a yellowish hue and is too transparent. For outside work, use a large brush, with a smaller one to work about windows and other corners. When not in use, keep all brushes in oil, or well cleansed from paint, or they will dry up and spoil. In commencing, take a course of boards (as many as can well be reached) and brush their whole length. Do not leave off painting long enough for the work to dry, until the course is finished. If obliged to suspend the work, leave off about a window, door, or corner. Use boiled oil, and never finish outside work in very hot weather. For outside, the paint for first coats should be thinnish, the second made thick, and the third thicker than the first, but thinner than the second. For inside work there are different methods. It is safe, as a general rule, to use equal parts of naptha and Japan varnish as a vehicle with which to mix the pigments. Naptha is used as a substitute for turpentine, which is now very expensive. It is a poor drier. Japan varnish and turpentine are quick driers. Oil is a slow drier, but dries more rapidly when boiled. If the paint is drying too fast while applying it, add more naptha or a little oil. Positive colors, such as blues, reds, etc., are seldom, if ever, used on inside work, but a great variety of tints are obtained by mixing these with white. For *straw-color*, use yellow ochre with white; for *flesh*, chrome yellow and a little red with white. *Gray* is made by adding to the white a very little black. Red and black make brown. Be very careful in mixing colors with black, or the desired tint may be neutralized. If *dry* colors are used with white, they should always be rubbed up with a little naptha or turpentine before mixing. Make experimental trials for desired tints upon short boards, noting each time the proportion of color used. After the first coat is dried hard it is to be rubbed down with sand paper (laid under a little block) before applying the next coat. If the work is to be varnished, use Dammar varnish for all light colors.

About Good Bread and Some Other Things.

JACK FROST'S LAND, March, 1864.

MR. EDITOR—Dear Sir:—Your correspondent, "Crusty Bachelor," in the *American Agriculturist* for January, page 22, asks "Why so much poor bread?" I admit his statements are correct, but "what constitutes good bread?" will be settled when "what constitutes beauty?" is decided. Some persons like (they say) "very tough bread," while others will only eat that which is delicate and tender. Let tastes differ as they may, the best quality of fine bread, whether lightened by 'hop yeast,' 'Prof. S's. Compound,' or 'milk-rising,' is so nearly alike, that a majority of critics (like Mr. Crusty B.) cannot tell which yeast was used.

The science of fermentation is not sufficiently studied by those who fail, for more failures arise from want of proper fermentation than from injudicious baking. Some 'poor bread' is caused by pure carelessness; it is less trouble to make it 'moist, anyhow,' than 'to fuss and sponge it, and all that'; while a person of opposite proclivities is apt to have so many irons in the fire that some of them burn—bread, for instance.

Many a loaf of 'poor bread' has been made because an ambitious mother had her daughter taught to dance, draw, paint, play and sing, so 'she can marry a rich man and never have to work.' And you may tell C. Bachelor that gentlemen sometimes prefer that sort of girls. The quiet daughter who 'helps mother' is often overlooked and neglected, while her sister, with the aforesaid accomplishments, who spends more time upon flounces, jackets, ruches—and Demorest only knows what—is invited to party, concert, or lecture, and is the sole recipient of all the attention of Mr. McFlimsy and, perhaps, Mr. McSolid also. When young gentlemen ask young ladies, "Can you make good bread?" as frequently as they have hitherto asked, "Can you play?" etc., the supply of good housekeepers will equal the demand, not only in quantity, but in the kind asked for.

Some intellectual men have given us to understand that a woman's head is not nearly large enough to contain a knowledge of books and work too, and she must know whether Dr. Johnson or Bayard Taylor "wrote Shakespeare," instead of doing only "what a servant can do just as well." The result of this theory is, that many a girl is led to look on a barrel of flour (and perhaps the farmer who produced it) with unfeigned contempt, to read novels, and write 'high pressure' stories for the magazines. Once upon a time a highly gifted editor of N. Y. wrote a story, and in disposing of his heroes two go to sea, one becomes somebody, the other was so "stupid they could only make him cook." You have my permission to go into said editor's sanctum and ask him "if in order to cook it is necessary to be stupid?"

As to C. Bachelor's idea of apprenticeship, it is always understood that a girl is apprenticed to her mother to study the whole art of housekeeping, cooking included, (some would like it 'perfect in six lessons,') and if the mother does her duty, the daughter will learn that all other things being equal, the comfort and happiness of a family when she is its associate partner, will depend upon

her. Then, when she becomes a wife, if she be wise, she will "rise while it is yet night," make, or see that good bread is made, "and give a portion to her maideus," family, and visitors. I hope your lady readers, more competent than myself, will answer C. Bachelor's questions, and that his Lordship's crustiness will become like that of good bread—its most delicious part.

Good bye. FLORA DALE.

Good Yeast and Good Bread.

A "Practical Baker" at Franklin Co., Kansas, sends to the *American Agriculturist* the following directions for making good yeast bread: "Pare and boil potatoes sufficient to make one pint when mashed, with water enough to scald 1½ lbs. flour. (The water from the potatoes is important, as it contains a great part of the substance of the potatoes.) A small handful of hops in a cloth should be boiled with the potatoes. Scald the flour, mash the potatoes and mix well. When cool, add about one pint of good hop yeast. This should be made about noon the day before baking. Next morning set the spouge with warm water—a pint for a loaf; put in a handful of salt, and stir to consistence of thick batter. Set in a warm place and let it rise, and when light, add a piece of alum the size of a large hazel nut, dissolved in ½ pint of hot water, and then knead until it works free from the hands and pan, making the dough rather stiff, (many *knead too little* and have the dough too thin); then spread over and work in slightly ½ tablespoonful of lard. Set in a warm place and let it rise until very light. Mould into pans; let it rise again, and bake in 4 large loaves. It will be done by noon. "Our starting yeast is made and kept as follows: Scald one large teacupful of flour with very strong hop water; when cool, add yeast; let it rise and fall; rub dry and fine with flour; spread out to dry in a cool room. The morning before making yeast, soak a teacupful with warm water and keep warm. When this is used put no hops with the potatoes."

Another Method.—Contributed by Mrs. McClellan, Sandusky Co., O.: To 3 qts. water add 1 pt. hops, tied in a thin muslin bag; boil ½ hour; remove bag and stir in thickening made of 1 pt. flour, 1 tablespoonful sugar, 1 do. ginger, 1 do. salt. Let this boil up once. When lukewarm, add ½ pt. yeast to raise it, and when light bottle. It must not be corked tightly for 24 hours. After that, the tighter the better. A jug holding 1 gallon, glazed inside and out, is best for keeping yeast. It should be washed with care every time new yeast is made.

Bread.—1 qt. warm water, or better, 1 pt. water and 1 pt. new milk, mixed with flour to a thick batter, ½ cup yeast (as above). Set at night. In morning mix and mould well, setting again to rise. When light, re-mold and put into pans for baking. If tender crust is desired, wrap the bread in a towel wrung out of cold water, and this again in a dry towel, immediately after taking out of the oven. The above quantity will make two loaves.

More Bread.—An experienced baker sends the following directions to the *American Agriculturist*: Wash clean and boil 4 lbs. of potatoes, not peeled; the best part of the potato is near the surface. The *diastase* which surrounds the eye of the potato greatly promotes the fermentation. Pour the water from the potatoes, and while hot, mash them up fine and add sufficient water to make a batter about as thick as for griddle cakes, put in a handful or two of flour and mix well; crush all the lumps and when the mixture is about as warm as new milk or about 90°, mix with it a few spoonfuls of yeast, and cover it with a cloth, and keep it moderately warm until morning. Then strain the mixture through a corn meal sieve, and work in about 12 lbs. of flour, or until it is thick enough, and set it in a warm place to rise. If this plan is followed out thoroughly, it will make more good, light bread that will keep moist longer, and will be better than with flour alone.

TO ANNEAL BAKING PLATTERS.—Earthen dishes when new are liable to crack the first few times they are heated. "Ann Eliza," Cold Spring, L. I., writes to the *American Agriculturist*: "Before the dishes have been used, soak them in warm water a few hours, and then grease them on *both* sides the first two or three times they are used to bake upon," which she says will prevent their cracking.

Music at Home.

No family can afford to do without music. It is a luxury and an economy; an alleviator of sorrow, and a spring of enjoyment; a protection against vice and an incitement to virtue. When rightly used, its effects, physical, intellectual and moral, are good, very good, and only good.

Make home attractive; music affords a means of doing this. Cultivate kindly feeling, love. Music will help in this work. Keep out angry feeling. "Music hath charms to soothe the savage breast." Be economical. Pleasure, recreation, all must have, and no pleasure costs less in proportion to its worth than home music. Make your sons and daughters accomplished. What accomplishment is more valuable than music? Fit your daughters to support themselves in the future, if need be. There has been no time in many years when any young lady having sufficient knowledge to teach music could not pleasantly earn a respectable support in that way.

"But," some may say, "I have no ear for music, nor have any of my family." Probably not one of you has ever tried it faithfully. Perhaps your sons had no natural "ears" for reading, or your daughters natural hands for writing; and certainly unless they had learned these things they would never have been accomplished in them. Music does, indeed, come more naturally to most people than many other accomplishments that are next to universal; yet it does not come to all without much time spent in careful cultivation.

The one best means of introducing music to the family, and inducing its cultivation is to procure a good musical instrument. If none of your daughters or sons can play at all, yet if they have a good instrument at hand, some of them will learn. In almost every family this will be the case. Buy an instrument and try the experiment; if it succeeds only to a very small extent, the cost will be repaid many fold.

The "Religious Dodge."

There is a class of rogues and swindlers in this city who in the language of the police are on the "serious dodge." Bad women and men dress in the deepest mourning, wear the blackest of vails and the widest of weeds, and in other ways imitate those in affliction, in order to work upon the sympathies of the benevolent and unsuspecting. There are certain quacks who go upon what may be called the "religious dodge," and "assume the livery of heaven to serve &c." It is always well to be shy of Reverend dabblers in physic. A clergyman who attends to his proper duties has enough to do, and had better leave the *bodies* of people to be looked after by others. Among the most conspicuous of these "Reverend" gentlemen just now is the "Rev. Charles E. King," who advertises to send ☞Free of cost.☜ his prescription for the "cure of consumption and other diseases." We have one of these prescriptions with the accompanying documents before us, and are disposed to give the Rev. Charles E. the benefit of a gratuitous advertisement, and "from a sense of humanity" make his prescription more widely known, which will no doubt gladden his benevolent heart. The first article in his prescription is five ounces of the leaves of "*Virosa monogynia*," and the next —— but we need not go on, as the leading and most important article is not known to druggists nor to botanists, and like *Veronica quinquefolia*, is a fancy name applied to nobody knows what. Here is just where the joke comes in; the "Reverend" Charles knowing that his "*Virosa*" is not "always (?) to be obtained," proposes at the end of his circular to undertake the preparation of his own prescription for money—all of which is very good of Charlie. He is a very benevolent man to the tune of Two Dollars a pint. Every body who should happen to want the stuff, can send in their orders to Station D, Bible House, an excellent address to give the thing a religious look to people in the country, though every body in New York knows that this is one of the regular U. S. Mail stations, and has no more to do with the Bible Society than have the shoemakers or other tenants of the Bible-house. In addition to his printed circular the "Reverend" Charles throws in one done in the best style of lithography, which is edifying reading on account of "its earnest prayer" and moral and religious teachings, and to make good measure he adds a printed tract on "Solitude and Sorrow considered as God's Agencies." This is doubtless a thoughtful care for the surviving friends of those who not getting the prescription made up of pure articles, should fail to get cured. This tract by the way, purports to be published by the "New Tract Society," a concern not known to our religious community and which with commendable modesty, withholds its address.—Charles E. King you call yourself Reverend, and add M. D., and L. L. D. to your name. If these really belong to you we advise you to drop them while you are engaged in this business, or you will bring titles which should always command respect, into disgrace.—Drop your divinity or your quackery, Charles.

Hints on Cooking, etc.

The Apple Pie Melon.—Having tried this once, we discarded it as worthless, but the fault might have been in the cook and not in the melon. A. P. Blodgett, Esq., Middlesex Co., N. J., is quite enthusiastic in his praise of it, as a material for pies, preserves and sweet pickles. Half a lemon or half a teaspoonful of tartaric acid are added to each pie. For "apple sauce" to 3 lbs. of the melon prepared for cooking, 1 lb. of sugar, a teaspoonful of tartaric acid and a little extract of lemon are added. Another use for the fruit is to fry it in the same manner as the egg plant, when it is said to not be distinguishable from that vegetable. The vine bears well and the fruit keeps through the winter.

Good Pies.—Contributed to the *American Agriculturist* by Mrs. Thos. W. Rhodes, Cayuga Co., N. Y. *Cider Pie.*—Mix 1 cup of boiled cider, 1 cup of water, 1 cup of sugar, 1 egg, 2 tablespoonfuls of flour and a little salt. Should the cider be thick, use two thirds of a cup and fill the cup with water. Bake with single crust like custard pie.

Cream Pie.—In 1 pint of sweet cream stir 1 tablespoonful of flour, ½ cup of sugar, a little salt; flavor with nutmeg or extract of lemon; make the crust single the same as the preceding.

Strawberry Jelly.—Contributed to the *American Agriculturist* by Asenath Doan, Athens Co., O. Take ripe, perfect strawberries, pick off the husks, place the berries in large (but not deep) dishes, saturate well with refined brown sugar, and set the dishes on the cellar floor to keep them cool. Early the next morning drain off the juice, being careful not to mash the berries. (I make pies of the berries and they are pretty good.) Stew the juice over a slow fire until it begins to thicken, then stir in as many cups of sugar as there are of juice; keep it cooking slowly and well stirred until the sugar is well dissolved. I prefer a stone common milk crock to stew it down in. When a little cool put it in glass tumblers, and when cold cover tight with two or more thicknesses of white paper and keep in a cool dry place.

Raspberry Short-Cake.—Contributed to the *American Agriculturist* by Ada Martin, Clarke Co., Iowa. Mix dough as for biscuit; roll it thin as pie crust and cut in sheets the size of a bake-tin. Place one of these in the tin, then a layer of ripe strawberries, then more dough, and so on for three layers of dough, and two of berries. Cut small holes in the top crust, pour in a little water, and lay on a few small lumps of butter, and bake half an hour. Serve with sweetened cream.

Pickled or Spiced Currants.—Contributed to the *American Agriculturist* by "F. I. T." Staten Island, N. Y. Take 8 qts. ripe currants, 4 lbs. sugar, 1 pint vinegar, and ground spices to taste. Boil about an hour, put in jars and cover as other preserves. After a few months it is quite equal to cranberry jelly.

Pudding Sauce.—"Buckeye" wishes to know, what is the sauce of the consistence of ice cream which is served with puddings in city restaurants. It is, what is known as hard sance, and is made by beating butter with twice its weight of powdered white sugar, until the whole is brought to a smoth mass. It may be flavored by stirring in a little wine, some lemon juice with grated rind, or nutmeg. In cold weather it is necessary to let the butter soften, but not melt, in a warm place.

Cream Muffins.—Contributed to the *American Agriculturist* by a Lady: Mix 1 pt. sour cream, (but not very sour) 1 pint flour, 3 eggs, 1 teaspoonful salt, ½ teaspoonful soda or saleratus, whites and yolks of eggs beaten separately. Stir in the whites the last thing. They are much nicer baked in new cups, which can be bought of a cheap kind. Wipe them clean with a dry cloth, never wet or grease them; in a short time the muffin will shine like varnish on the side next the cup.

Fritters.—Contributed to the *American Agriculturist* by Mrs. Frances W. B. Robbins, Suffolk Co., New-York. Beat ten eggs thoroughly, mix with two quarts cold water, one teaspoouful of salt, add flour to make a batter the thickness of griddle cakes; fry by the tablespoonful in fresh hot lard. Excellent, especially if eaten with maple molasses.

Corn Starch Cake.—Contributed to the *American Agriculturist* by "Young Housekeeper." Mix 1 egg, 2 cups of flour, 1 cup of milk, 1 cup of sugar, 1 teaspoonful of soda, 2 of cream of tartar, piece of butter half the size of hen's egg, melted; bake the same as for jelly cake, in shallow tins, and when cold, pile in layers, with a custard between made as follows: Take 1 egg, 1 cup of milk, sugar to taste, 2 teaspoonfuls of vanilla extract, 1 teaspoonful of corn starch. Boil the milk, beat the egg and corn starch together, and stir into the boiling milk which must previously be sweetened; when cold, stir in the vanilla; the custard must cool before being put with the cake.

BOYS & GIRLS' COLUMNS.

The Insects and the Birds.

Robert was very fond of hunting. In the neighborhood were he lived there was no game worth shooting, except now and then a fox, a rabbit, a partridge or a wild pigeon, and these were too shy for his skill. There where however plenty of robins, bobolinks, meadow larks, yellow birds and sparrows, (chipping birds he called them) and it was his great delight to bring them down with stones, or with shot when he could coax some unthinking person to lend him a gun.

One warm day in June, Robert had been very successful in shooting birds; he had silenced the sweet song of many a little warbler, and left many a poor fledgling to perish in its nest for want of its mother's care. Being warm and tired he lay down on the grass, in the shade of a large elm, and soon saw some very curious things. A monstrous mosquito came and perched on a limb overhead, and began to blow a horn which he carried. Immediately a great crowd of insects, flies, bugs, beetles, grasshoppers and crickets came swarming to the place, filling the branches of the tree and the ground around it. After them crawled an innumerable host of worms, large and small—such a surprising collection was never before seen. Presently a huge locust sitting in a fork of the tree, for a chair, called this strange meeting to order and said: "It is well known to all of you that our lives are in constant danger from the ferocious birds which abound in this neighborhood. Not a day passes but thousands of our unlucky tribes are remorselessly snapped up by these singing robbers, who are the greatest helps of our other enemies, the human race, in our destruction. But I have the pleasure to announce to you, that we have at last found a friend, where we least expected it. This young man whom you see near you has come to our rescue. He saved my head this morning by instantly killing a black-bird that was just about to dart down upon me, and he has slain dozens of the robins, cat-birds, sparrows and other wretches that have picked up so many of our unlucky relatives. If he continues this good work we shall soon have the best of times. The farmers have sowed plenty of grain, the gardeners are raising abundance of vegetables, fruit and flowers, and we shall have nothing to do but live on these fine things and enjoy ourselves on the fat of the land. Now then I propose that we all do him honor. "Agreed! agreed!" shouted the whole multitude together. "We'll spin handsome webs all over his bed room," said the spiders; "We'll build beautiful mounds in his front yard." cried the ants; "We'll sing for him all night," chimed in the musquitoes; "We'll dance around him all day," put in the fleas; "We'll make a nest and spin our finest yarns in his trees," added the caterpillars, and so the whole throng of insects agreed show their regard. A huge green tobacco worm was particularly delighted. "I want to embrace him," said the frightful creature, and "I too," said all the others; and with that they all made toward the poor boy, who was too much astonished to move. One company crawled up to his face, another buzzed around his ears, and others scrambled over his naked feet, until he gave a loud cry of disgust and horror, and awoke from his curious dream, to find a mosquito singing at his ear, a caterpillar crawling over his hand, and several large red ants creeping up the legs of his pantaloons. He has never shot a bird since that day, and we commend his experience and his resolution to the boys of the *American Agriculturist*.

About Great Men and Boys.

Among the mountains of California stand some of the most wonderful trees ever discovered. They tower up more than three hundred feet, or taller than the highest steeple in this country. There they stood hundreds of years before civilized men ever saw them. But they were just as grand while alone in the solitude of the unbroken wilderness† when only visited by the winds, the wild beasts and birds and the equally wild Indians, as they are now, when travellers flock to admire their statelihess. So all truly great men possess the same nobleness of nature before, that they do after the world has discovered, acknowledged, and applauded it. Those who long for opportunities of becoming great, forget that greatness is in the man, not in the opportunity. The opportunity only gives occasion for greatness to exhibit itself. Washington possessed the same high qualities when he told the truth and loved his mother, as when he headed the American armies, and presided over the councils of the nation. A man may be great, though circumstances confine him to a narrow sphere, just as a ray of light is as pure, as cheerful, and as much the child of the sun when shining in a rude hovel, as when flashing from the mirrors of a palace. Goodness, courage, devotion, manliness, patience, perseverance, reverence, and love, will make a boy great, though he live on the most secluded farm in the back-woods. There are thousands of such boys—many of them will read these words written for their encouragement. The day may come when their noble qualities will be wanted in the public service, and all men shall see and acknowledge their worth. But if not, they are still rich in enduring wealth, and let them remember also, that life only *begins* in this world.

How the Soldier Sleeps.

B. F. Taylor in the Chicago Journal gives the following graphic description of what he often witnessed in camp. "You would, I think, wonder to see men lie right down in the dusty road, under the noon sun of Tennessee and Alabama, and fall asleep in a minute. I have passed hundreds of such sleepers. A dry spot is a good mattress; the flap of a blanket quite a downy pillow. You would wonder to see a whole army corps without a shred of a tent to bless themselves with, lying anywhere and everywhere in an all-night rain, and not a growl nor a grumble. I was curious to see whether the pluck and good nature were washed out of them, and so I made my way out of the snug, dry quarters I am quite ashamed to say I occupied, at five in the morning, to see what water had done with them. Nothing! Each soaked blanket hatched out as jolly a fellow as you would wish to see—muddy, dripping, half floundered, forth they came; wringing themselves out as they went, with the look of a troop of "wet down" but hearts trumps every time. If they swore—and some did—it was with a laugh; the sleepy fires were stirred up; then came the coffee, and they were as good as new."

Answers to Problems and Puzzles.

The following are the answers to the puzzles in the May number, page 151. No. 80 *Illustrated Rebus.—Awl weighs bee pre (paired) four change;* that is, always be prepared for change. No. 81. *Word Puzzle.—Manslaughter*, which, cut in two, gives *man's laughter*. No. 82. *Pictorial Proverb.—Bear and for-bear.* No. 83. *Geographical Question.—Washington.* No. 84. *Illustrated Rebus.—Types and the steam engine* were pie (on) ears of ass t (on) ish (in) g chain ges; that is; Types and the steam engine were pioneers of astonishing changes. No. 85. *Puzzling Dinner.—1, Turkey; 2, Spare rib; 3, A goose; 4, Onions; 5, Pears; 6, Greens; 7, Po-tatoes. The dessert; Pies of gooseberry, currant, dried pears, and pump-kin.* The following have sent correct answers up to May 5th. "Katie and Mattie," 77, 78, 79; C. N. Goodlander, 77; Frank, B. Bourne, 77, 79; Lorenzo Ayres, 79, John J. Weeks, 79; Eliza A. Kayes, 79; H. H. Osgood, 77, 79; George I. Richardson, 77; "Erastus," 79; H. Martin Kellogg, 79; Henry C. Fox, 79; W. A. V., 77; Charles J. Cook, 78, 79; G. G. Cantner, 77; Amos H. Rogers, 79; S. B. Marks, 79; J. H. Griffith, 79; R. D. C. Van Antwerp, 79; Fanny Horton, 77; H. S. W., 79; J. M. Sanford, 79; O. J. Sigon, 77, 79, 80; L. Howell, 78, 79; C. H. St. John, 79; B. B. Beeson, 79; James Dills, 79; Mary W. Mason, 79; William Bright, 77; Jno. H. Peelle, 76; Solomon Boneer, 79; James Reid, 79; Herbert Frisbie, 79; Mary E. Metcalf, 77; Henry See, 79; Martin Morrison, 79; George M. Gould, 79; Albert S. Gifford, 79; "A Reader," 79; Lucy and Ida M. Lazear, 77, 79; Miner S. Baldwin, 79; L. L. Fisher, 78, 79; D. J. Ellworth, 79; John T. Marvin, 79, Daniel I. Rowe, 70, 77, 79; Wesley Harvey, 79; John C. Green, 79; M. Amelia Hough, 77, 79; C. A. Kaufman, 79; P. A. Ross, 79; Maggie Campbell, 79; David L. Reed, 77; D. W. Bottorf, 79; S. O. Downe, 79; Eusebius K. Hersey, 79; H. Hudgens, 77; Jacob H. Van Ness, 79; Levi M. Frisbie, 79; Amos Dean, 79; Lester Barnes, 79; O. P. Eigenbright, 79; Eddie Dickinson, 79; Wm. Yates, 77, 79; J. H. Simpkins, 79; John W. Day, 79; Daniel Arney, 77; John Persing, 79; Jonathan S. Cook, 79; F. A. Saunders, 77; Edward V. Gilman, 79; Etty Beyea. 79; Thos. E. Morris, 78; Elbert M. Smith, 77, 78, 79; Lizzie Vaugh, 79; Charles S. Edgar, 79; G. R. Palmer, 77, 79; Selden A. Smith, 79; Emory B. Curtis, 79; J. Boyd, 79; F. P. Wilbur, 79; John W. Emery, 79; Clora M. Stephens, 83; James Parmlee, 81, 82, 84; Erastus Murphy, 83;

New Puzzles to be Answered.

No. 86 *Pictorial Proverb.*—A truth frequently noticed.

No. 87. *Illustrated Rebus.*—A proverb for the sanguine.

No. 88. *Illustrated Rebus.*—Worth remembering.

No. 89. *Grammatical Puzzle.*—Contributed to the *American Agriculturist* by G. A. Draper, Essex Co., N. J. "Let the rich, great, and noble, banquet in their halls And pass the hours away, as the most thoughtless revel."

Take away one letter from a word in the verse and substitute another, and by that change, totally alter the syntactical construction of the whole sentence, changing the moods and tenses of verbs, turning verbs into nouns, nouns into adjectives, and adjectives into ad verbs, etc., and so make the entire stanza bear quite a different meaning from that which it has as it is above.

CAUGHT IN A SUDDEN SHOWER.—*Engraved for the American Agriculturist.*

These children are in quite a "fix," but they seem to know how to make the best of it. They have run to the nearest shelter, and are patiently waiting until the rain is over. The little boy takes it very coolly as he sits on the bank watching the great drops fall into the little pools. The older girl has not forgotten to take care of her sister, who seems to feel entire confidence in her affectionate protection. In looking at this beautiful picture we are reminded of the old proverb: "When it rains, let it rain." The same bit of wisdom is sometimes stated in another form: "Patiently endure what you can not cure." This lesson is well worth learning. It will save many an uncomfortable hour, and many a sinful thought. Perhaps the best way to form a habit of doing this, is to try and look on the bright side of things. Thus these children may make themselves contented by thinking how much good the rain will do: that it will make the vegetables and flowers in their garden grow; that the dust will all be laid in the roads, and the trees and grass and grain will all be brighter and stronger after the shower. And thus when any trouble comes, as it will be pretty sure to do before you are many years older, it will be much more easily borne, by thinking of the good which may come from it. We may not always be able to see beforehand how disappointment or difficulty will bring a benefit, but if we have proper confidence in the Great Disposer of events, we shall feel certain that every trial will at last bring good. It is related of a workman in an English mine, that, whatever happened, he used to say, "It's all for the best." One day, just as he was about going down to his work in the deep coal pit, a dog run away with his dinner which he had laid down for a moment, and he had a long chase after him. As he returned, one of his fellow workmen laughingly asked him, "Do you think *that* was all for the best." "Certainly" was the reply. Just then a fearful cry came up from the pit below. The rope had broken by which workmen were being let down, and they had been dashed to the bottom, and most of them killed. If the man had not run after the dog, he too would have been among the unfortunate.

The Boys of New-York City.

THE NEWSBOYS.

Many a lad who reads the *American Agriculturist*, thinks New-York City must be a real paradise for boys, and longs for the time when he may be old enough and have money enough to come here and make his fortune, or at least enjoy himself much better than he thinks possible in the country. We will describe how some classes of boys live here, and it will be seen that many of them have great reason to desire to exchange places with you.

The first class that a stranger here would notice, is the newsboys, or those who sell newspapers, for they put themselves in everybody's way on purpose to be noticed. They swarm around the railroad depots, steamboat landings, hotels, and other busy places, and morning and evening, when the daily papers are issued, their clear loud cry rings out "'Eres the Sun, Times, Tribune, Post, 'Erald," etc. Most of them have unwashed faces and hands, uncombed hair, unbrushed and unpatched clothes; their language is not choice, and their manners are rough; but with all these drawbacks one has to admire them for their self reliance, keenness, and persevering industry. They are all sons of poor parents; many of them know little or nothing of their father and mother, but more have been driven from home by the intemperance of their parents to pick up their own livelihood. Hundreds of them have no place they can call home. They sleep in boxes, covered wagons, alleyways, or other out-of-the-way corners, and eat at the cheap restaurants or stands in the streets. They must be on hand at the printing offices by three or four o'clock in the morning to secure a supply of papers to sell. Most of them have their own districts in which to dispose of their papers, and woe be to the strange boy who attempts to start business on his own account in the locality occupied by another. He must be prepared to fight a hard battle, and fairly conquer a peaceable possession. These boys being compelled to look out for themselves, soon become very sharp at driving a bargain, and no one knows better than a newsboy how to take advantage of circumstances. If any important news arrives, and extras are issued at any hour of day or night, they make the most of it, often charging double or treble the usual rates for their papers. In times of great excitement on war topics or other matters, they sometimes make large profits, as high as $5 in a day, but usually they get only enough to barely live, and to spend now and then twenty five cents for admission to a cheap seat at the theater, circus, or some other place of amusement. A few of these boys go through all the trials and temptations belonging to their calling, and by industry and perseverance, work their way up to high station. More than one now wealthy and respected business man in this City was once a newsboy. But for every such one, hundreds are ruined by the vices which tempt them on every side, and become drunkards, gamblers, or thieves. Within a few years past some benevolent men have been trying to better the condition of the newsboys. They have established a lodging-house for them, where they may readily obtain comfortable quarters. They also have their meetings, a library, and other means of improvement which have already greatly benefited many of them. "I wouldn't be a newsboy," thousands of our young readers are ready to say; but if your parents should come here to live, should die here poor, and leave you to make your own way in the world, this might be almost the only chance open to get a living. Such is the history of many who now sell papers for a livelihood. Hereafter we may give a sketch of how other boys live here to show that boys need not come here for happiness.

HINT FOR THE UNPUNCTUAL.—"Ah, Jemmy," said a sympathizing friend to a man too late for the train, "you didn't run fast enough." "Yes I did," said Jemmy, "I ran fast enough, but I didn't start soon enough."

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These Bonds are issued under the Act of Congress of March 8th, 1864, which provides that all Bonds issued under this Act shall be EXEMPT FROM TAXATION by or under any State or municipal authority. Subscriptions to these Bonds are received in United States notes or notes of National Banks. They are TO BE REDEEMED IN COIN, at the pleasure of the Government, at any period *not less than ten nor more than forty years* from their date, and until their redemption FIVE PER CENT. INTEREST WILL BE PAID IN COIN, on Bonds of not over one hundred dollars annually, and on all other Bonds semi-annually. The interest is payable on the first days of March and September in each year.

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It may be useful to state in this connection that the total Funded Debt of the United States on which interest is payable in gold, on the 3d day of March, 1864, was $768,965,000. The interest on this debt for the coming fiscal year will be $45,937,126, while the customs revenue in gold for the current fiscal year, ending June 30th, 1864 has been so far at the rate of over $100,000,000 per annum.

It will be seen that even the present gold revenues of the Government are largely in excess of the wants of the Treasury for the payment of gold interest, while the recent increase of the tariff will doubtless raise the annual receipts from customs on the same amount of importation to $150,000,000 per annum.

Instructions to the National Banks acting as loan agents were not issued until March 26, but the amount of Bonds reported sold at the United States Treasury up to May seventh was

$44,606,100.

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Commercial Notes.

The following condensed, comprehensive tables, made up to May 14th, show the transactions the past month.

1. TRANSACTIONS AT THE NEW-YORK MARKETS.

Receipts.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
25 days *this* m'th	281,000	219,000	143,000	31,100	174,000	376,000
27 days *last* m'th	209,000	156,000	285,000	7,500	126,000	353,000

Sales.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*
25 days *this* month,	373,000	514,000	938,000	9,200	141,000
27 days *last* month,	370,000	784,000	836,000	46,500	410,000

2. *Comparison with same time last year.*

Receipts.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
25 days 1864	281,000	219,000	143,000	31,000	174,000	376,000
26 days 1863	347,000	540,000	596,000	45,000	51,000	410,000

Sales.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*
25 days 1864	373,000	514,000	938,000	9,200	141,000
26 days 1863	349,000	783,000	1,839,000	102,000	91,000

3. *Exports from New-York Jan. 1. to May 13.*

	Flour, bbls.	Wheat, bus.	Corn, bus.	Rye, bus.	Oats, bus.
1864	706,521	4,232,679	107,107	405	14,914
1863	830,493	4,103,939	2,597,612	216,978	110,759
1862	933,922	2,636,284	4,733,120	604,678	17,863

Business in breadstuffs, as well as in other kinds of domestic produce, and general merchandise, has been on a limited scale during the past month......The receipts of flour and grain from the interior were quite limited up to the commencement of the current week, when the first considerable supplies by canal and river came to hand. The fluctuations in the premium on Gold were violent—from 89 per cent, the highest figures yet reached, down to 65 per cent—and the general tendency of the market for gold, and sterling exchange was toward a lower range. The news received this week of the success of our armies in Virginia and Georgia has served to depress the market, though the Wall-St. speculators have struggled earnestly to keep up the inflation of prices. All these circumstances have unfavorably affected the markets for produce. Sales of breadstuffs have been very moderate, for shipment and home use; flour and wheat have declined materially, closing heavily. Rye and corn have been unusually scarce, and the few lots sold from day to day, brought higher prices. Oats have been more abundant and cheaper, with rather heavier sales reported.—Government agents have been the principal buyers. Barley has been lightly dealt in,—closing with a downward tendency......The main business in the provision line has been in hog products, as also in butter and cheese, chiefly on speculation, at extremely variable prices, the market closing generally in favor of purchasers......Cotton has been more active and has advanced rapidly, especially within the past week....Seed, hemp, feathers, and tobacco have been quiet at somewhat irregular prices.

The Wool Trade.—A very heavy business was transacted in wool, both domestic and foreign, early in the month, at much higher rates, in view of the diminished supplies available, and the great increase in the duty on imported wools. The demand was, to a considerable extent, for manufacturing purposes, but mainly from speculative buyers. The activity of the national armies during the past fortnight, and the anticipation of an early and decisive victory have had the effect of checking operations, and, within the past week, the reported sales have been quite limited. Holders, however, are very firm, and not eager to dispose of their supplies, unless at extreme prices. It is generally thought that under the revised tariff, the imports of foreign wool will be light, and that manufacturers will have to depend mainly on the domestic product; see Current Price Table.

Current Wholesale Prices.

	April 15.		May 14.	
Flour—Super to Extra State	$7 30	@ 8 25	$6 60	@ 7 40
Super. to Extra Southern	8 00	@11 50	7 30	@10 50
Extra Western	8 15	@11 50	7 00	@10 50
Extra Genesee	8 30	@10 25	7 50	@ 9 00
Superfine Western	7 30	@ 7 50	6 65	@ 6 95
Rye Flour	5 55	@ 6 35	5 25	@ 6 75
Corn Meal	5 75	@ 6 35	6 25	@ 6 65
Wheat—All kinds of White	1 90	@ 2 06	1 70	@ 1 87
All kinds of Red	1 73	@ 1 90	1 52	@ 1 70
Corn—Yellow	1 34	@ 1 35	1 41	@ 1 42
Mixed	1 33	@		@ 1 42
Oats—Western	89	@ 90	87½	@ 88½
State	89	@ 90	87	@ 88½
Rye	1 30	@ 1 31	1 48	@ 1 50
Barley	1 25	@ 1 50	1 35	@ 1 50
Cotton—Middlings, per lb	78	@ 79	85	@ 86
Hops, crop of 1863, per lb	20	@ 32	18	@ 30
Feathers, Live Geese, p. lb	65	@ 67	70	@ 72
Seed—Clover, per lb	12	@	11	@ 11½
Timothy, per bushel	2 75	@ 3 12½	2 50	@ 3 00
Flax, per bushel	3 45	@ 3 55	3 45	@ 3 55
Sugar—Brown, per lb	13½	@ 17½	14½	@ 19
Molasses, New-Orleans, p.gl.	85	@ 1 00	90	@ 1 00
Coffee, Rio, per lb	42	@ 42	43	@ 46
Tobacco—Kentucky,&c,p.lb.	12½	@ 32½	12½	@ 30
Seed Leaf, per lb	18	@ 65	18	@ 65
Wool—Domestic fleece, p. lb.	68	@ 83	70	@ 85
Domestic, pulled, per lb	58	@ 78	62½	@ 80
Wool, California, unwashed	20	@ 50	20	@ 50
Tallow, per lb	13	@ 13¼	13¼	@ 13¾
Oil Cake, per tun	47 50	@57 50	50 00	@60 00
Pork—Mess, per bbl	25 75	@25 87½	28 12½	@28 25
Prime, per bbl	20 50	@23 50	24 00	@24 50
Beef—Plain mess	14 00	@17 00	15 00	@18 00
Lard, in bbls., per lb	13½	@ 14⅜	13	@ 14¼
Butter—Western, per lb	25	@ 35	24	@ 32
State, per lb	35	@ 46	28	@ 34
Cheese	15	@ 18	14	@ 18
Beans—per bushel	2 60	@ 3 00	2 65	@ 2 95
Peas, Canada, per Bushel	1 15	@ 1 20		@ 1 18
Broom Corn—per lb	8	@ 10	9	@ 12
Eggs—Fresh, per dozen	24	@ 25	20	@ 21
Poultry—Fowls, per lb	20	@ 24	15	@ 17
Turkeys, per lb	22	@ 24	16	@ 19
Pigeons—Wild, per doz	2 00	@ 2 25	1 75	@ 2 00
Potatoes—Mercers, p. bbl	3 00	@ 3 50	3 50	@ 3 75
Peach Blow, per bbl	3 00	@ 3 25	3 50	@ 4 00
Prince Albert	2 75	@ 3 00	3 00	@ 3 25
New Bermuda, per barrel				@10 00
Turnips—Ruta baga, per bbl	1 50	@ 2 00	1 75	@ 2 00
Onions, Red & Yellow p. bbl.	7 50	@ 8 00	7 50	@
Dried Apples, per lb	7½	@ 11	9½	@ 11
Dried Peaches, per lb	25	@ 29	26	@ 28
Dried Raspberries, per lb	24	@ 25	26	@ 28
Apples, Western, per bbl	4 00	@ 4 50	4 00	@ 4 50
Apples, Russets, Golden p bbl	3 00	@ 3 50	3 75	@ 4 75
Cranberries, per bbl	12 00	@18 00	8 00	@14 00

Advertisements.

Advertisements, to be sure of insertion, must be received BEFORE the 10th of the preceding month.

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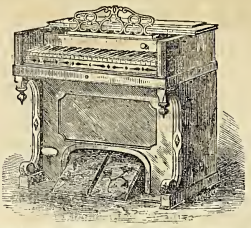

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The AGRICULTUEIST for February, 1864, page 37, has the following:

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DEAR SIR.—Your favor received by my brother during my absence from home, in relation to the Sanford & Mallory Machine. I would say that it is a good one—THE BEST IN USE. I am about starting another mill and intend to put in two more of your Brakes. You are at liberty to refer to me and I shall be pleased to show any one the Machine at work.
Yours truly, JAMES FOWK.

CAMBRIDGE CITY, Indiana, 4th Month, 1st, 1864.
Mallory and Sanford:

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Messrs. Mallory and Sanford:

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LYMAN MURDOCK.

MAYVILLE, CHAUTAUQUE Co., N. Y., April 2d, 1864.
Messrs. Mallory and Sanford:

GENTLEMEN,—I have used your Patent Flax Brake for the past year, and think it much superior to any other in use, as the flax needs much less scutching and will save from eight to ten pounds of fibre to every hundred pounds of straw dressed over any other kind of brake in use.
Yours truly, J. W. CORNELL.

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Messrs. Mallory and Sanford:

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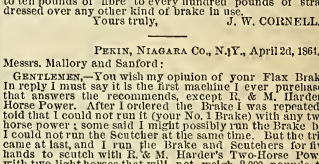

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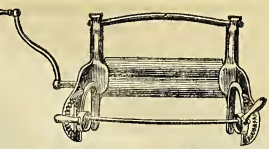

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ILLINOIS,

Extending 380 miles from North to South, has all the diversity of climate to be found between Massachusetts and Virginia, and varieties of soil adapted to the products of New England and those of the Middle States. The black soil in the central portions of the State is the richest known, and produces the finest corn, wheat, sorghum and hay, which latter crop, during the past year, has been highly remunerative. The seeding of these prairie lands to tame grasses, for pasturage, offers to farmers with capital the most profitable results. The smaller prairies, interspersed with timber, in the more southern portion of the State, produce the best of winter wheat, tobacco, flax, hemp and fruit. The lands still further South are heavily timbered, and here the raising of fruit, tobacco, cotton and the manufacture of lumber, yield large returns. The *health* of Illinois is hardly surpassed by any State in the Union.

GRAIN AND STOCK RAISING.

In the list of corn and wheat producing States, Illinois stands pre-eminently first. Its advantages for raising cattle and hogs are too well-known to require comment here. For sheep raising, the lands in every part of the State are well adapted, and Illinois can now boast of many of the largest flocks in the country. No branch in industry offers greater inducements for investment.

HEMP, FLAX AND TOBACCO.

Hemp and flax can be produced of as good quality as any grown in Europe. Tobacco of the finest quality is raised upon lands purchased of this Company, and it promises to be one of the most important crops of the State. Cotton, too, is raised, to a considerable extent, in the southern portion. The making of sugar from the beet is receiving considerable attention, and experiments upon a large scale have been made during the past season. The cultivation of sorghum is rapidly increasing, and there are numerous indications that ere many years Illinois will produce a large surplus of sugar and molasses for exportation.

FRUIT.

The central and southern parts of the State are peculiarly adapted to fruit raising; and peaches, pears and strawberries, together with early vegetables, are sent to Chicago, St. Louis and Cincinnati, as well as other markets, and always command a ready sale.

COAL AND MINERALS.

The immense coal deposits of Illinois are worked at different points near the Railroad, and the great resources of the State in iron, lead, zinc, limestone, potters' clay, &c., &c., as yet barely touched, will eventually be the source of great wealth.

TO ACTUAL SETTLERS

the inducements offered are so great that the Company has already sold 1,500,000 acres, and the sales during the past year have been to a larger number of purchasers than ever before. The advantages to a man of small means, settling in Illinois, where his children may grow up with all the benefits of education and the best of public schools, can hardly be over-estimated. No State in the Union is increasing more rapidly in population, which has trebled in ten years along the line of this Railroad.

PRICES AND TERMS OF PAYMENT.

The price of land varies from $7 to $12 and upward per acre, and they are sold on long credit, on short credit, or for cash. A deduction of *ten per cent.* from the long credit price is made to those who make a payment of one-fourth of the principal down, and the balance in one, two, and three years. A deduction of **twenty per cent.** is made to those who purchase for cash. Never before have greater inducements been offered to cash purchasers.

EXAMPLE.

Forty acres at $10 per acre on long credit, interest at six per cent., payable annually in advance; the principal in four, five, six, and seven years.

	INTEREST.	PRINCIPAL.
Cash payment	$24.00	
Payment in one year	24.00	
" two years	24.00	
" three "	24.00	
" four "	18.00	$100.00
" five "	12.00	100.00
" six "	6.00	100.00
" seven "		100.00

Or the same farm, on short credit:

	INTEREST.	PRINCIPAL.
Cash payment	$16.20	$90.00
Payment in one year	10.80	90.00
" two years	5.40	90.00
" three "		90.00

The same farm may be purchased for $320 in cash.

☞ Full information on all points, together with maps, showing the exact location of the lands, will be furnished on application in person or by letter to

LAND COMMISSIONER,
Illinois Central R. R. Co., at Chicago, Ill.

Wm. H. KANLETT, Architect.
Hohokus, Bergen County, N. J.

Prairie View Farm For Sale.

For sale, a beautiful farm of 160 acres, situated near the Fox River in the town of Oswego, Kendall Co., Illinois, 3½ miles from the station on the Chicago, Burlington and Quincy R. R., 2½ from the village of Oswego, and 6 from the city of Aurora. The improvements are all permanent and particularly well adapted to stock purposes. A well furnished house, and large barn with stabling for 50 cattle. A thrifty Apple orchard. Peach, Plum, Pear and Cherry trees, both dwarf and standard; also all the small fruits with a good variety of grapes, most of the above in bearing. A fine Durham stock, horses, tools and household furniture will be sold with the farm if desired. For further particulars address the subscriber at Oswego, Ill.

P. PORTER WIGGINS.

MARYLAND FARMS.

We have for sale over 200 farms in this State, of as beautiful and productive land as ever the sun shone upon, having access by Rail Roads, Steamboats and Turnpikes. These Farms in many instances can be bought for less than the Improvements upon them cost, in consequence of the change from slave to free labor.

As Surveyors we have an intimate knowledge of the lands of this State. Enquiries by letter will be promptly answered.

H. W. TEMPLEMAN & CO.,
Real Estate Brokers, Baltimore City, Md.

FOR SALE.—Improved Farms.—One Farm 110 acres, 18 miles from Philadelphia, 10 miles to Steamboat Landing, 1 mile to marl bed, fronting the R. R., ¼ mile to a station.—1 do. 70 acres, fronting a turnpike, extending to a lake 1 mile wide, all in grass, ¼ mile to a Rail Road station, 20 miles to Philadelphia.—1 do., 257 acres, 30 miles to Philadelphia, rich loam soil, $20 per acre. Several small farms. J. H. COFFIN, Franklinville, Gloucester Co., New Jersey.

FISK & HATCH,

No. 38 Wall-st., New-York City.

BANKERS AND DEALERS IN

All kinds of Government and other Securities. Orders from the Country for purchase of Government Bonds, etc., attended to WITH CARE and Promptness.

☞ **7-30 U. S. Treasury Notes converted into U. S. 6 per cent. Bonds of 1881, on favorable terms.**

Farmers, Countrymen, and Country Merchants

Can send their

Butter, Cheese, Eggs, Lard, Tallow, Beans, Hops, Flax, Cotton, Flour, Grain, Meal, Green and Dried Fruits, Furs, Skins, Poultry, Game, Provisions, Seeds, Sorghum, Wool, Potash, Tobacco, Oils, and other produce to

JOSIAH CARPENTER,

COMMISSION MERCHANT,

32 Jay-street, New-York.

To be sold at the highest market price. Every shipper to him will receive his valuable Weekly Price Current of the New York Market free

S. B. CONOVER,
Commission Dealer,

260, 261 & 262 West Washington Market,

FOOT OF FULTON-ST.

Particular attention paid to selling all kinds of Fruit and other Farm Produce.

☞ Refers to the Editor of the American Agriculturist.

CHARLES W. IDELL,

FRUIT AND GENERAL PRODUCE

COMMISSION MERCHANT,

70 & 71 Broad Avenue, West Washington Market, New-York.

Farmer's Produce of all kinds, Green, Dried and Canned Fruits, Maple Sugar and Syrup, Pork, Poultry, Butter, Eggs, Game, &c.

Particular attention paid to Fruit. Consignments solicited.

Sorgum Mills & Evaporators

Of the most approved manufacture for sale by the undersigned. The March, April and May numbers of "Rural Adv'ertiser," containing specific instructions for sowing the seed, growth, management, and harvesting the cane, and also principles of the Evaporator used in manufacturing, forwarded by mail for 15 cts.

PASCHALL MORRIS,
Agricultural and Seed Warehouse,
1120 Market-st., Philadelphia.

Agent for Mills and Evaporators.

Steel Composition Bells.

THE AMERICAN BELL COMPANY.
(Office No. 91 Liberty-street, New-York.)

Are the only manufacturers of this description of Bell, either in this country or in Europe—the combining of certain metals, and the process of manufacturing the same being the discovery of the President of the Company. These Bells we can commend with great confidence to the public, for their cheapness and quality of tone. We furnish a 500 lb. bell with all the necessary appointments—including Harrison's patented Selfacting Rotary, for $125, and one of 1000 lbs. with like appointments, for $244, the price for the Bells being 20c. per pound, and that of the hangings of the first, $25, and those of the latter $44. Our circulars containing full details, will be forwarded free of charge to all parties desiring the same.

Beardsley's Premium Hay Elevator.

Persons wishing to act as Agents for the sale of the BEST ELEVATOR in use, will please apply to

GRIFFING BROTHER & CO.,
60 Courtlandt-st., New-York.

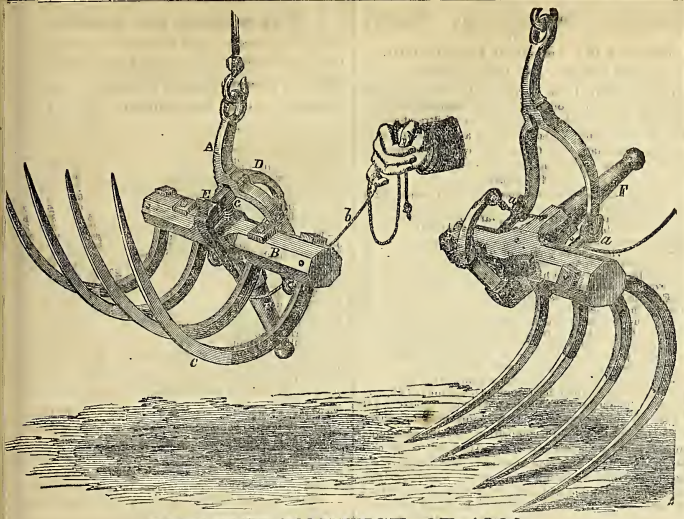
INGERSOLL'S IMPROVED
HORSE AND HAND POWER

HAY AND COTTON PRESSES.

These machines have been tested in the most thorough manner throughout this and foreign countries to the number of over 1300.

THE HORSE POWER is worked by either wheel or capstan, and in many respects possesses unequalled advantages. We invite those wanting such machines to write for a catalogue containing full information with cuts, prices, &c., or call and examine personally.

Orders promptly attended to, by addressing
INGERSOLL & DOUGHERTY, Greenpoint, Kings Co., L. I.



FOR THE HARVEST OF 1864.

RUNDELL'S FIRST PREMIUM HAY ELEVATOR.

Every Farmer should have one of these labor-saving implements.
It saves time, money, and hard work.

IT UNLOADS A TON OF HAY IN FROM 3 TO 8 MINUTES!

It pitches into a window from the outside, carrying the hay eight feet inside.
It pitches into mows, over and under purlin beams, and into any place where a band fork will work.
It stacks Hay and Straw in the field, making high and long ricks.
Be sure and get the very best Fork, one that will not break and get out of repair. Do not buy an inferior article simply because it is cheap. Our Fork is not an untried experiment, but has stood the severest test during the past season, and received the highest commendations from those that have used them.
They are made in the most substantial manner so as to prevent all possibility of getting out of repair.

Orders for Forks in the State of New-York and the East, address R. J. RUNDELL & BRO., Hudson, N. Y., and all west of N. Y., address **R. J. RUNDELL & BRO., Proprietors & Manufacturers, P. O. Box 3931 Chicago, Ill.**
Orders for Fork in the Counties of Westchester, Putnam, Dutchess, Columbia, Rensselaer, Washington, and Saratoga, N. Y., address GIFFORD BROS., Hudson, N. Y.

TO PLANTERS
OF
TREES, SHRUBS, AND VINES.
PARSONS & CO.,

offer their fine stock of

Apples, Plums, Cherries, Pears--Standard, Pears--Dwarf, Peaches on Plum Stock,

and all other sorts of

FRUIT TREES

at very low rates.

HARDY GRAPE VINES,
OF
Delaware, Hartford Prolific, Concord, Iona,
and many other sorts.

Vines for House Culture.

1 year, $20 per 100—2 years, $30 per 100.

These are of very fine quality.

They have at **Low Figures,** a very large stock from which to select handsome specimens, of

Street and Lawn Trees,

of symmetrical form and well rooted.

Flowering Shrubs in great variety.

Roses on their own roots, at from $10 to $25 per 100.

Exotic Plants for Window Gardens and Hanging Baskets, of the finest sorts.

They invite examination of their Grounds and Green-Houses.

For Catalogues apply by mail, at
Flushing, near New-York.

PATENT

Indestructible Label for Fruit Trees, Flowering Shrubs, Roses, &c.

The attention of Amateur Fruit Growers and Nurserymen is invited to this useful article which has received the approval of many of the leading Horticulturists in the country. Their cheapness, durability and neatness of design render them essential in every well conducted Garden, Orchard, or Conservatory, in any climate, not being in any way affected by heat or dampness.

The cut, with a word or two of explanation, will render this useful invention perfectly clear to the reader. The edges of a circular zinc back, are turned over the edge of a mica front, between which the label, printed on paper, is placed, and shows through the mica in front of it as clearly as through glass. By the aid of a little cement, the whole is rendered impervious to water, and forms an indestructible, neat, and always legible label.

A sample label, with a list of the varieties constantly on hand, will be sent to any address in the Union on the receipt of two three cent postage stamps.

Price 50 cents per dozen. $3 per hundred.

The names of varieties not included in the list, will be furnished to order at an additional charge of $1 per hundred.
Address B. K. BLISS, Springfield, Mass.

FRUIT BASKETS FOR 1864.

To all interested in the picking, sale, and safe carriage of Small Fruits, we respectfully recommend our improved Fruit Basket. If you want a basket to stand on its own bottom, ours will do it. If you want a basket to carry your fruit long distances with the least damage to the berry, we have it. If you want a basket that will hold your fruit to its most inviting and delicious appearance, we furnish it. Finally, if you want a basket in which is combined economy, strength and style; in short, entire completeness, we can give you exactly [illegible].

Circulars containing descriptions and prices of baskets and crates, will be sent, on application to us.
A. BEECHER & SONS, Westville, Conn.

Hot Water Furnaces

for Warming Green-houses, Conservatories, Graperies, &c.
WEATHERED & CHEREVOY, 117 Prince-st., New-York.

WEST'S IMPROVED PUMP.—By J. D. WEST & CO., 179 Broadway, N. Y.

GRAPES.

Although our stock of vines this season was very large it was by no means equal to the demand. We are now growing 250,000 vines, and invite early negotiations from parties wishing to purchase. We are already receiving heavy orders for fall delivery.

We will send our new catalogue, which will be issued in July, to all applicants enclosing stamp.

J. KNOX,
Box 155 Pittsburgh, Pa.

Newell & Stiles,

MANUFACTURERS OF ALL KINDS OF

Direction Labels or Tags.

The cheapest method of advertising, and the safest, most convenient, and durable article known for the use of Shippers and Nurserymen.

Agents wanted in every city in the Union. Send for Price List.
Plantsville, Conn.
May 10th, 1864.

STRAWBERRIES.

Our Strawberries will be in perfection this season, about the 20th of June. We cordially invite persons interested in the cultivation of this delicious fruit, to visit our grounds then, and examine the different varieties for themselves. They will then have a better opportunity of judging of their merits, than in any other way.

We will issue our new catalogue in July, which will be sent to all applicants enclosing stamp.

J. KNOX,
Box 155, Pittsburgh, Pa.

TO FARMERS
AND OTHERS.

We are manufacturing a Genuine Article of VERY FINE **BONE DUST,** and **RAW BONE SUPERPHOSPHATE OF LIME,** manufactured from unburned Bones, containing all the Animal and Chemical Fertilizing Properties. Please address the Manufacturers, and get the Intrinsic Value of your money.

N. B. A Liberal Discount made to Dealers for Cash,
Address A. LISTER & BRO.,
Newark, N. J.

Rhodes Standard SUPERPHOSPHATE.

The following letter from the well-known agriculturist Dr. Loring, of Salem, Mass., is published for the benefit of farmers who may not have used "RHODES MANURE."
H. E. MORING, 113 Water-st., New-York.

N. B.—"RHODES" is sold by all respectable dealers through New-York and New-England.

Salem, Mass., April 19, 1864.

To H. E. MORING Esq.:
General Agent Rhodes Superphosphate,
113 Water-st., New-York.

Dear Sir.—I have used "Rhodes Superphosphate" on various crops, and in all cases have found it useful. Applied to Corn in the hill it is very valuable; and as a fertilizer for turnips, it is hardly equalled. It is certainly a most important, effective and economical manure.

Truly Yours,
GEO. B. LORING

AMMONIATED PACIFIC GUANO.

A real guano containing from seventy to eighty per cent of Phosphate of Lime, to which has been added, by a chemical process, a large percentage of Actual Ammonia so fixed that it can not evaporate, making it equal if not superior to any other fertilizer.

Pamphlets with copies of Analysis by Dr. Jackson, Mass. State Assayer, and testimonials from scientific Agriculturists showing its value, can be obtained from
J. O. BAKER & CO., Selling agents,
87 Wall-st., New-York.

Bruce's Concentrated Manure.

Those who have used the above valuable fertilizer the past year, give it the preference over

No. 1 Peruvian Guano, Bone, or Poudrette.

In the year 1862, some **fifty tons** were sold. Last year orders came in to the amount of **four hundred tons,** only half of which could be filled. This year we shall manufacture **ONE THOUSAND TONS.**

Its "component" parts are:
40 per cent. of Animal fibre and Blood.
40 per cent. of pure Ground Bones.
20 per cent. of Absorbents.
The absorbents are Charcoal and Gypsum.
Price **$45 Per Ton,** packed in barrels 250 lbs. in each.
Send for Circular. Send your orders to
GRIFFING BROTHER & CO.
58 and 60 Courtlandt-st., New-York.

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Communications Deferred.—Owing to the early day at which we go to press many communications come too late to be seasonable. Among those excluded this month is an excellent article on tree planting by Owego. Will our friends recollect that the work on the paper is always a full month in advance of the season?

Another Strawberry Show,

AT THE

Office of the American Agriculturist,

ON THE 15th AND 16th OF JUNE.

The Proprietor of the *American Agriculturist* again offers the use of his commodious establishment, 41 Park Row, for the Third Annual Exhibition of Strawberries. To add to the interest and to secure a careful and systematic examination of the merits of the berries, he takes pleasure in offering the following

PRIZES.

A—For best 12 approved varieties (one quart each)..**$10**
B—Second best....do.....do.....do..... 5
C—For best market berry (two quarts of one variety.—It is desirable to show plants with fruit)..... 5
D—For second best do. do. 2
E—For heaviest three berries of one variety..... 3
F—For best flavored Strawberry (one pint)..... 2
G—For best quart of White Strawberries..... 2
H—For best Alpines—(not less than one pint)..... 1
I—For the best New Seedling..... 5
K—For the 2d best do. do..... 3

[The berries shown as *new seedlings* must have been fruited two years and not previously made public by exhibition, sale, or otherwise. The entire plant, or at least fruit stalks with berries attached, and the leaves, must be shown.]

L—*Discretionary Premiums.*—The Committee will also award, at their discretion, 10 premiums of $1 each, to meritorious samples not included above. **10**

☞ No sample can compete for more than one prize.

The berries to come in competition for the premiums must be upon the tables as early as 11 A. M. on the first day of exhibition, and each specimen must be correctly labeled and entered in the name of the *Producer*. The Awarding Committee will attend to their duties at 12 M.—When the premiums are awarded, the *names, residence,* and *places of business* of the exhibitors will be put upon the specimens, and the samples designated.—No Fruit exhibited will be removed before the evening of the 2nd day. After consultation with the principal Strawberry raisers of this vicinity,

☞ **The Time of the Exhibition**

has been fixed for the **15th** and **16th** of June—*two days.* Should any change be found necessary, which is not probable, a notice to that effect will be found in the Daily Tribune and Daily Times of Wednesday, June 1st.

The Committee of Judges appointed at the "Fruit Growers' Meeting," May 12th, consists of the following well-known and respected amateurs.

P. B. MEADE Esq., New-York, Chairman.
R. G. PARDEE Esq., Brooklyn.
—— WINANS Esq., Newark, N. J.
DR. J. B. CHAPIN, Providence, R. I.
PROF. HUNTSMAN, Flushing.

Strawberries for All Applicants.

When the special premium of the *Agriculturist Strawberry* was announced, promise was made, that they should be distributed to all as rapidly as the increase by propagation would allow, in the order in which subscribers' names were received. The severe drouth of last summer greatly retarded multiplying the plants, so that at one time it was doubtful whether enough could be obtained to supply the unprecedented large number of subscribers the present year. But the favorable season this spring enables us to announce that there will be plenty for all comers, up to the **100,000** subscribers that we have already nearly registered on our books.—(A little effort on the part of our friends this month will complete the number.) We give this repetition of the above notice, in answer to numerous letters of inquiry, from those who have not seen previous announcements.

Gratifying to All Parties.

Numerous letters from advertisers and from readers testify to their appreciation of the value of the advertising columns of the *American Agriculturist.* One writes, "It is most satisfactory to feel assured when looking over your business cards, that one shall stumble into no trap set to catch the eye and then the dollars of the unwary. Stick to your card 'No Humbugs admitted.'"—Another; "We are constantly hearing from our advertisement in the *American Agriculturist*, and have already been repaid fourfold for the money expended. We are enabled to trace the source of our orders, by the very excellent arrangement requested by you, that parties shall mention in their letters, where they saw our advertisement." Notwithstanding that the busy season with Nurserymen, Agricultural warehouses, and others is mainly passed, our columns are yet well filled with valuable information to purchasers. Those in other lines of business are discovering that by this means a widly extended and reliable class of customers is most certainly reached.

Premiums for 1864.

Or Pay to Voluntary Agents who attend to Collecting and forwarding Clubs of Subscribers to the Agriculturist.

Table of Premiums and Terms.

Open to all—No Competition.

Names of Premium Articles.

	Price of Premiums.	Names at $1 each.	Names at $2 cts. each.
GOOD BOOKS—*See terms below*			
A—American Cyclopedia (Appleton's New).	$64 00	150	235
B—Best Family Clothes Wringer	$7 00	19	45
C—Nonpareil Washing Machine	$16 00	40	90
D—Sewing Machine, (Wheeler & Wilson)	$50 00	110	235
E—Sewing Machine, (Wilcox & Gibbs)	$45 00	98	195
F—Woodruff's Mercurial Barometer	$10 00	25	80
G—Woodruff's Mercurial Barometer	$15 00	35	110
H—The Aquarius	$12 00	30	80
I—Five Octave Melodeon (best)	$90 00	190	350
J—Four Octave Melodeon (best)	$60 00	130	260
K—Seven back Volumes Agriculturist,	$8 68	28	64
L—Six do do do	$7 44	25	58
M—Five do do do	$6 20	22	49
N—Four do do do	$4 96	19	42
O—Three do do do	$3 72	16	33
P—Two do do do	$2 48	13	24
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Notes and Suggestions for the Month.

In July we expect scorching hot weather, and very likely some weeks of drouth, with thunder-storms, varying the monotony now and then, and refreshing all nature. A week of rain we do not expect, but may get it. Hail storms may come too, as they did in June, and damage the fruits. The ravages of insects will of course continue, some kinds giving place to others, one corps relieving another; and if perchance one army of eaters be withdrawn altogether from our immediate front, we shall soon find the scouts and pickets of another, with a new base of supplies; not now depending upon the cucumbers and melons, but rioting upon the cabbages or the carrot fields. July brings with it much that is grand, majestic, and destructive, and very appropriately the Lion (Leo) is the sign for this part of the zodiac. The constellation is marked by a beautiful group of stars, situated in the head of Leo, one being very bright; they form distinctly the outline of a sickle or reaping-hook,—very appropriate to the season. Man's labors are arduous, but he goes to the field with the clash of machinery, and with the strong muscles of horses and oxen, to lighten his toil. The careful drivers guide their teams with the rush of clattering knives and rattling gearing behind them, round and round thousands of fields of grass and grain. The tedding machine follows in many fields tossing the grass into the air, like the spray from a stern-wheel steamer. Horses rake it, horses may load it, horses lift both hay and grain to the mow and stack. The corn and root crops are cultivated, the grain is threshed, the fodder is cut, and every thing possible is done by horse-power. To relieve the horses from the hardest drudgery of the farm the steam plows are multiplying upon the prairies, and the past season has seen the first really successful steam plowing and prairie breaking in this country. All this goes on, and at the very same time 500,000 farmers face the enemies of their country, and with bayonet and saber crowd the traitor host to their fens and fastnesses. In this field, too, the labor of the horse is indispensable, and they number 200,000. When we consider the amount of labor thus withdrawn from the farms of the country, it is hard to frame words of advice to guide those who remain, their labors are so peculiar. The necessity of constantly planning to do with less labor, or to accomplish more by the same outlay, by the aid of machinery, horse-power, and various other contrivances, has been gradually increasing, till now it would seem to have reached a climax. It is the farmer's great problem this year, and many are manfully and successfully *working* it out.

Work for the Farm, Barn, and Stock Yard.

Always keep the entire "situation" in mind. This involves good generalship. The farmer must know his resources,—what crops will need labor, how much they will need, where they need it, how to shift his labor from one part of the farm to another economically, how to bestow his own presence and labor and attention where it will be of most avail, as *presence* and as *labor.* He must be prepared for emergencies, for storms, for sick animals, for hands failing, for his own necessary absence; he ought to be ever ready with devices to keep hands and animals occupied,—not for the sake of keeping the men at work, but for the sake of having the work done; and this the men must be able to see clearly. If the farmer grudges the men a spare half hour, just because they are enjoying *his* time, it will make the best of men eye-servants; but if the pressure of work previously laid out makes every man feel that there is no time to waste, he renders his service more willingly.

Buildings.—If barn roofs need repairing, see to it when there is no hay in the bays. The nails that fall through, if they lodge in the hay, are very often swallowed by cattle to their serious injury. Clear out empty bays thoroughly before putting new hay into them. Plan to make such a disposition of crops as they come into the buildings, as to save steps and labor in feeding out during the winter.

Buckwheat.—Put in a good breadth if other grain crops are not promising. It will follow either winter or spring grains or potatoes, or occupy land where any crop has failed; it may be put in any time this month. See page 206.

Butter.—See notes for last month. Present and prospective high prices for good butter make pains-taking pay. Poor butter is worth but little more than good lard—good butter 36 to 45 cents per pound at retail.

Cabbages.—There are few surer and more profitable crops on *new* land. Unfortunately this plant has so many enemies in old ground that its culture is often uncertain and attended with much annoyance, but on reclaimed swamp ground or on land recently cleared, or in soil which has been exposed to a good heat by burning brush or bogs, it is sure and remunerative. It is not too late to sow for transplanting

Cattle.—Look to it that they have abundant water in the pastures, a constant supply of salt, and feed enough. Cows and especially young heifers should have the service of the best bulls their owners can afford to own or hire.

Cellars—Give thorough, constant ventilation; keep clean and free from decaying substances.

Cheese.—Aim to secure uniform excellence, and uniformity in size, weight and color. The market for good cheese can never be glutted; it is not only a nutritious and favorite article of diet for home markets, but there is an increasing foreign demand. We counsel farmers to inform themselves of the benefits of associated dairies and cheese factories by personal inspection. The field is so large and the markets so hungry, there is little jealousy, and should be none.

Clover Seed.—Give the cleanest part of a clover field a top-dressing of ashes and plaster, (and a little fine manure from the barn yard or compost heap will do no harm.) This will give the clover a good start and vigorous growth, so that it will blossom and go to seed before the grass and weeds show their heads above it. The more rampant weeds may be pulled, or cut with the "spud" (a chisel on a long handle), if necessary. If headed at the proper time it will furnish clean and heavy seed.

Draining.—This is always *on hand* when other work is not pressing. It cures the evils both of drought and excessive water, and of both combined which often occurs on the same land at different periods of the same year.

Grain.—Cut when the kernel is between "milk" and "dough."

Grass.—Cut in the blossom for the best hay—a little later to save work in curing. See articles on haymaking in June number, and on manuring grass lands in this, page 203.

Hay Mows.—Ventilate large mows of hay or grain by making perpendicular air passages through them, with openings below.

Hedge-rows and fence corners, those nurseries for weeds, ever encroaching on the tilled land, should be kept clean with the hook and scythe. Sheep, when they can be used, make very clean work at exterminating brush.

Hoeing.—Keep the ground loose and open by

frequent cultivation, especially if there be danger from drought. The plow will do no damage to the roots before the tops of corn, potatoes, tobacco, etc., would be injured by the passage of the whiffletree.

Manure.—The hog pens and compost heaps should receive every thing that will decay. The fermentation in compost heaps may need quickening by a few pailfuls of manure liquor. In hot weather manure makes very fast, and dead animals and all such things rapidly form an excellent compost with muck, sods, etc. Use plaster to prevent the loss of ammonia, sprinkling it over manure while it is in active fermentation, and upon stable floors, etc. See articles on pages 202 and 203.

Oats, like other spring grain, are apt to ripen unevenly. If allowed to stand too long, the straw is not so good for fodder, and the grain shells badly; if cut too early, the straw will be much better but the grain will not be so plump, and it often is hard to thresh; good judgment therefore is needed. The oat should be cut just when passing out of the "milk" To save the labor of threshing, it is often worth while to cut and cure this grain like hay, and feed it out in the same way. In this case it is cut about as soon as the grain in the more forward heads may be rubbed out in the hands. The only objection to this plan is that it is more exposed to the attacks of rats and mice.

Pastures.—Be very careful about over-stocking. If possible make frequent changes from one pasture to another. Top-dressings of gypsum, or ashes and bone dust, quickly show their effect in the increased feed. Sowing bone dust upon old pastures is regularly and profitably practised in many parts of New England, particularly in dairy regions.

Potatoes for immediate marketing may be dug as soon as ripe, or when the tops die. If not required to be marketed at once it is best to leave them in the ground till fall. Do not hoe after blossoming.

Poultry.—Let all kinds of poultry find their way to the grain fields after the grain is housed, but not before. If kept shut up, give grass or greens daily.

Sheep very close shorn sometimes have their backs scalded by the hot sun, and flies will cause much annoyance to such sores, as also to wounds; sew on patches of greased cotton cloth. Sheep suffer from the attacks of the Œstrus Ovis, a gadfly, which causes "grub in the head," and is an intolerable annoyance to the sheep. They are repelled by smearing tar on the sheep's noses, and it is a great comfort to the sheep to have a fresh plowed furrow here and there into which they thrust their noses when the gadfly is about. Salt weekly and visit frequently through the season.

Soiling Crops.—Sow millet, corn, or sorghum for late soiling. The millet will mature seed. Hungarian grass will make a good crop of hay sowed before the middle of the month.

Swine may have the range of the orchards, where they will pick up the wormy fruit and destroy the insects. They will glean the scattered grain in the fields, and thrive upon it. Grain fed to hogs during the summer tells very well when fattening begins in earnest, in their increased size and good condition. Feed hogs confined in pens some green fodder daily. Give them charcoal dust to chew or mix it with the feed, and supply water to drink. It improves their condition very much.

Tanner's Bark.—Oak and hemlock trees will peel during most of this month.

Tools.—Examine the entire stock in rainy weather, and if possible anticipate breakage by strengthening weak spots and joints and keeping every thing well oiled, nuts tight, bearings clean, cutting tools sharp, and duplicates of parts likely to break.

Turnips are excellent to fill up all vacant places. A few seeds may be scattered here and there, wherever any thing else has failed. The main crop may be sowed after the 20th. 200 pounds of superphosphate or bone dust to the acre will almost always insure a good crop. Dust the plants with gypsum if they are troubled with insects. See page 206.

Weeds.—Watch against their going to seed. Smother those which cutting and plowing will not kill by spreading a coating of litter over them.

Wheat.—Cut when passing out of the milk. The "Heading Harvesters" are especially to be recommended where labor is scarce as it is this season. There is some loss of grain, but little in comparison with the saving of labor in handling great masses of straw, where straw has so little value as at the west.

Orchard and Nursery.

Notwithstanding the severity of the winter, and the cold blasts about blossoming time in spring, there is in many localities a prospect of a fair if not abundant crop. We have seen some orchards with more fruit set than the trees ought to bear, and it will, especially pears, need severe thinning. It is too much the custom to allow trees to bear at will, when the fruit would be improved in quality and quantity, if one half or more were removed. A barrel of large, well formed fruit will bring double the price of one filled with half shaped, guarled specimens. We repeat the advice to thin freely, and it will be found that low headed trees will increase the facility with which this is done.

Budding.—Plums may be worked as soon as the bark can be lifted, and good well formed buds can be had. In this as in all other propagation of plants, avoid all danger of mistakes in labeling. The budding of other fruits may follow in succession as soon as stock and buds are ready.

Cherries.—The softer varieties will need to be picked and marketed at once. Use a step ladder and let the limbs be drawn carefully toward the picker by means of a hooked stick. Allow no climbing of the trees with rough boots to bruise the bark.

Grafts.—Continue to watch them and replace the wax, if necessary. Remove all shoots that start on the stock below the graft.

Insects.—Late broods of the tent caterpillar may still be found in the trees. When within reach they may be removed by the hand. Those high upon the trees will need a brush or swab—kill them somehow. The disgusting, slimy, greenish slug which appears on pear trees may be treated to a dusting of lime or ashes, shaken from a bag of coarse muslin. Encourage insect eating birds, and do not shoot any without first ascertaining if they are friends or enemies. Birds will frequently take the earliest ripened cherries, but it will be found that these are prematurely colored because there is a worm within. Kerosene or coal oil lamps or lanterns, set in pans of water and kept burning through the night, will attract and drown numbers of moths which would otherwise lay their eggs on the trees.

Layering.—The growth of the present season of many ornamental shrubs may be layered, and will form well rooted plants to be separated and removed in autumn or the following spring.

Manure.—It is not too late to help trees to carry a large crop by spreading coarse stable manure around them as far as the roots extend.

Mulch.—Coarse manure used as directed above will answer as a mulch for established trees, but those planted this season will do better if mulched with some non-stimulating material. In the absence of all other mulching, a layer of small stones might be used with advantage to retain moisture.

Pinching.—This method of summer pruning may now be practised. Shoots which tend to run up unduly, may be shortened, and the growth thrown into lateral branches. Indeed the whole future shape of the young tree is now completely at the control of the cultivator, who by shortening a branch here, and rubbing one out altogether there, can form the head of the tree to suit his taste.

Pruning.—This is the most favorable month for the operation. Read the suggestions on page 207.

Seedlings.—These, whether of fruit or ornamental trees need to be shielded from the hot sun by means of a lattice work of lath, or by a shelter of boughs. Leafy boughs stuck all over the seed bed will give a rough shading, if no better can be provided.

Seeds.—Begin to collect all as they mature. Some shrubs ripen and drop their seeds soon after flowering. Cherry pits should not be allowed to get dry, but be preserved in boxes of sand or sandy earth.

Weeds.—These will now appear in abundance in the nursery, and will require the use of the horse-hoe, cultivator, or hand-hoe. In destroying weeds it is satisfactory to know that the labor not only kills these robbers of the soil, but at the same time leaves the ground in that loose condition which is most favorable to the growth of the plants.

Kitchen Garden.

The crops here are mainly well established, and the success of the season's operations will in good part depend upon care during midsummer. The free use of the hoe will both loosen the soil and keep down weeds. Much ground from which early peas, spinach and other crops have been removed, may now be rendered available by planting early this month. See note on a "Succession of Vegetables," on page 207.

Asparagus.—Cutting was of course over long ago. Nothing now is to be done but clean the bed of weeds and let the tops grow to strengthen the roots for another season, and they will do this all the better if they now have a dressing of manure. If the asparagus beetle appears, cut off the branches containing the eggs and grubs, and burn them. This may weaken the plants somewhat, but the injury from the insects would be much greater.

Beans.—Plant Refugee, or other good sort, for late use or for salting. Select some of the earliest of those already growing for seed. Give Limas a frequent hoeing, help them to climb the poles or trellis, pinch off the stem at the height of 5 or 6 feet. Some favorable results are reported from growing Limas without poles, letting them lie on the ground. Will those who try it give the results?

Beets.—Hoe, thin, and keep the ground loose between the rows. A late crop may be raised if seed is sown early this month. Soak the seed.

Cabbages and Cauliflowers.—Complete the transplanting of the late sorts, taking pains to "grout" the roots if the soil is dry. See p. 178, last month. Use the hoe freely and give liquid manure, unless in a dry time. Clear off the ground occupied by the early crop, and prepare and use it for late vegetables.

Celery.—Set out in trenches as directed last month. Give water if plants suffer from drouth.

Carrots.—Keep the space between the rows clean until the tops render it difficult to work them.

Corn.—Plant a crop of the quickly maturing varieties to prolong the season until frost. Be sure and have a good quantity dry for winter use.

Cucumbers.—Hoe those planted early, until the growth of the vines prevents it. Put in seed the first of the month for a late crop for pickling.

Egg Plants should be hurried up as fast as possible by giving frequent hoeings, and if the weather is not dry, an occasional stimulant of liquid manure.

Endive.—Sow as directed last month on page 178.

Herbs.—All the aromatic herbs should be cut just as they come into flower. Tie them in small bundles or spread them to dry in the shade.

Lettuce.—Sow for succession where it will be partially shaded, as the hot weather causes it to run to seed very soon. Silesian is good for late.

Manure.—The liquid manure tank should now be in operation and its contents applied to stimulate lagging plants. Do not use it during a dry time.

Melons.—Hoe as long as the size of the vines will permit. Pinch the ends of the vigorous stems to induce side branches to form and hasten maturity.

Onions.—Keep the bed well hoed and weeded, and thin the plants if they are likely to be too crowded.

Peas.—Sow for succession, putting the seed deep. Clear off vines and brush as soon as the picking is over, and prepare the ground for some late crop Pick those for seed as soon as the pods become dry.

Potatoes.—Dig for use and market, and prepare for late cabbages, turnips or spinach.

Rhubarb.—Do not allow the roots to become ex-

hausted by production of seed. Cut the flower-stalks as soon as they appear.

Squashes.—Look under the leaves for squash bugs, hand pick them, and crush their eggs. If a vine wilts there is probably a worm in the stem near the root, search for and carefully dig him out, cover the wound with soil and the vine may recover. Continue hoeing until the vines get too large.

Sweet Potatoes.—Keep the ridges, and spaces between, clear of weeds, moving the vines carefully.

Tomatoes.—The large green potato-worm makes destructive work, not only with leaves but green fruit. Don't neglect them a day, but catch and kill. Pinch the ends of rampant branches, and if training is practised, keep them secured to the trellis.

Transplanting.—Vacant places may be filled.

Turnips.—Sow White French and Rutabagas.

Weeds.—These will give plenty of work. See an article on use of the "Hoe and Rake," on page 211.

Fruit Garden.

There is plenty of work to do here in gathering the maturing crops, caring for those which are coming on and in combating the weeds.

Blackberries.—Hoe or keep mulched and tie up the heavy fruiting branches to the trellis.

Currants.—Weak and useless shoots may be removed. Bushes heavily loaded will need staking. Sometimes the season is prolonged by shading a few bushes. If the borer appears, cut off and burn the infested branches. Mulching is beneficial.

Dwarf Fruits.—Summer pinching may be practised to keep the tree in shape, and to help form fruit buds. Thin freely, particularly the larger varieties, and keep the trees, especially those planted this spring, well mulched. Look out for the pear slug and treat as directed under orchard.

Grapes.—Vines not fruiting need equal care with those which are, as it is of great importance to encourage a growth of strong, well ripened wood. Keep all vines well tied to stakes or the trellis, and pinch off the laterals as directed last month (p. 179). If not already done, the growth of fruiting canes should be stopped by pinching them off at two or three leaves beyond the last bunch of fruit. Young vines ought not to carry too much fruit, one, or at most two, bunches to the spur is enough. Hand-pick rosebugs and other insects. A well trained vine usually has all parts entirely within reach.

Raspberries.—These are now in full bearing, and will need to be picked daily. As soon as the crop is gathered, cut out the old canes and allow two or three canes of the new growth to grow for bearing fruit next season; unless it is wished to propagate the variety, all the rest of the shoots are to be destroyed. Black caps are not to be cut away in this manner as they do not sucker. Keep well hoed.

Strawberries.—In garden culture, the runners are to be kept pinched off, and after the fruit is picked, it is well to fork a good dressing of compost around the plants. If plants are needed for making new beds, the runners may be allowed to root until a sufficient stock is obtained; then stop them.

Flower Garden and Lawn.

The main things to be done here are those which will secure neatness. After the abundance of spring flowers is over, many are apt to allow the garden and lawn to run into neglect. Weeds appear, plants which should be tied up are allowed their own way, unsightly flower stalks, from which the bloom has fallen, remain, and a general want of care is manifest such as no garden should present. With proper care, the attractions of the garden may be made to last until vegetation is stopped by frost.

Annuals.—A sowing of the quicker growing kinds may be made now to give a late bloom.

Bulbs.—Follow directions given last month.

Carnations.—Make layers and cuttings and keep the flower stalks tied up to neat stakes.

Dahlias.—Those started in pots may still be set out. Put out the stake at the same time with the plant. They may be trained to a single stem, cutting off the lower branches, or three lower branches may be allowed to grow and be furnished with stakes as they get large enough. Keep carefully tied up, or a high wind may destroy the whole plant. Forward the plants by use of liquid manure.

Evergreens.—Prune and do not let the upper branches overhang the lower ones.

Gladiolus.—Provide stakes and tie up as the flower stalks show themselves.

Gravel Walks.—Keep out weeds by use of hoe and rake, and put fresh gravel on any thin spots.

Grass.—The lawn should be mowed often and the edges of paths and borders neatly trimmed. Grass used for edgings to beds needs the same care.

Hedges.—Clip into shape and plash or weave in the branches to fill up weak places.

Potted Plants.—These often suffer in hot weather. Read article on their treatment on page 209.

Propagation.—Many of the ornamental shrubs may be multiplied from cuttings of the new growth set in sandy soil in a shady place, and kept moist.

Pruning.—If necessary to do this to lawn trees, the present is the favorable month

Rhododendrons.—The hot weather of summer is often injurious to these. Insure moisture at the roots by properly mulching.

Roses.—The new growth if layered now will form plants to be removed next spring. Cut back the perpetuals as soon as their first bloom is over. Keep the climbing and pillar roses well tied up. Apply a solution of whale oil soap, 1 pound to 6 or 8 gallons of water, if the rose slug appears.

Seeds.—Save the finest flowers for seed. Collect as they ripen and label at once.

Verbenas.—These and other bedding plants need pegging down. Layers and cuttings made now will root rapidly and give late flowering plants.

Watering.—If obliged to water, remove the surface soil, apply copiously and replace the dry earth; this will keep the surface from forming a crust.

Weeds.—The hoe and rake and fingers must be kept in motion and the weeds have no quarter.

Green and Hot-Houses.

All the plants which can endure it are out of doors, but those which remain in ought not to be neglected. A plenty of air, watering and sprinkling must be provided for. Shading will also be needed, and may be insured by a muslin screen or by white-washing the glass.

Budding.—Whenever the bark of shrubs will lift, buds may be inserted.

Callas.—Repot if necessary and give less water.

Earth.—Secure a good stock for potting and keep it under cover where it may be used on rainy days.

Insects.—Use the same precautions and means of destruction as directed earlier in the season.

Potting.—Pot rooted cuttings and seedlings before they are too much drawn up by growing thickly in the seed pans.

Propagation.—Cuttings of stock for winter blooming may be put in. Most things root with surprising ease, without bottom heat, in sand, very wet.

Poinsettias.—This is the season of rest with them, and they are to be kept quite dry.

Pruning.—Shrubs need bringing into shape, and other plants pinched to make them stocky.

Cold Grapery.

Mulch the outside borders, and if very dry, water them with weak liquid manure. Continue to pinch laterals and the growth from the ends of shoots, as heretofore directed. The berries now increase in size and they should be thinned, using a pair of grape scissors. Remove enough to prevent crowding, which will be one-half, more or less, according to the variety. If mildew attacks the vines, the syringing overhead must be stopped and the air of the house kept as dry as possible. It makes its appearance in brown spots on the leaves, usually near the larger veins. Sulphur sprinkled freely over the floor of the house and dryness of the atmosphere are the remedies. The thermometer should stand at 90 to 95 in mid-day, and allowed to fall to about 85 during the night. If no mildew appears, syringing every evening may be continued.

Apiary in July.

Prepared by M. Quinby—By Request.

The number of moths about the hives now increases. They are troubled with an appetite for drink, that proves their ruin. Mix together molasses, vinegar, and water, to make a palatable drink, and set in saucers, or plates, among the hives at night. Skim out the moths in the morning for the chickens, set the liquid away for use the next night, adding water as it dries away, renewing it when weak. Kill all worms found on the floor, or about the corners of the weak colonies. Large apiaries are troubled less with the moth, than small ones. The Italians resist their attacks much more effectually than the natives. Foul brood is also much less prevalent with these bees. Wherever it exists, it should be attended to at this time. Hives can be examined three weeks after the first swarm better than any other time.—I say *first swarm*, not second or third. All healthy brood at such time has matured except a few drones. Cells containing the dead larvæ, remain sealed after the others are empty. To examine the interior of a hive for this purpose or any other, choose the middle of the day Put on some protection from outsiders, if you choose, but none of the bees inside will sting if you follow directions. First blow under the hive two or three puffs of tobacco smoke, immediately turn the hive bottom up, drive the bees away from the bottom with a little more smoke, spread the combs apart, and look among the brood combs for sealed cells. Open a few of them with the point of a knife; if black and putrid, drive out the bees at once. Now while you have it turned over, is just the time. Set an empty hive on the stand to amuse the bees returning from the fields; put another one on the inverted hive, and with a stick, a light hammer, or a stone, gently strike the lower hive rapidly. In fifteen minutes or less, the bees except perhaps a handful, may be driven into the upper hive. Set this on the old stand, and all that are scattered will soon gather inside to begin house-keeping anew. Should enough be left in the old hive to make it worth while, another hive may be set over and more driven out, which may be shaken out at the entrance of the new house. Those having the movable comb hive, when they wish to transfer, have only to lift out the combs, and shake the bees out at the entrance of the new or empty hive, which should be placed on the old stand, and have a wide board or sheet before it, that the bees may readily creep directly into it, without flying. I would not advise any one to get into the habit of smoking, for the sake of managing the bees; it is unnecessary. Take a bit of cotton or linen cloth a foot square, cover it with tobacco one fourth inch thick, roll it up, secure it with a few stitches, set fire at one end (it will smoke without blazing,) and blow the smoke among the bees. Rags alone, or decayed wood, that which will just hold together, will burn in the same way, and will answer in most cases, but some of the Italians, especially after being irritated a few times, will not yield for any thing weaker than tobacco.....Favorable weather during fruit blossoms, will have a tendency to bring out early swarms that will not only fill the hives, but store a good quantity of surplus. When the prospect is quite certain of a surplus, there is no harm in putting on the boxes only a day or two after the bees are hived. If two or more large swarms are hived together, the queen will not be likely to use the boxes for brood, and they may be put on at once. Keep a supply of boxes on hand, and change as fast as filled. When taken from the hive, if practicable, keep the same side up, and set on little sticks for the bees to creep out: at any rate, avoid turning over, further than on the side, and keep the sheets of comb vertical; otherwise

much of the honey will leak, making it look badly. Keep it out of the sun. It will be a waste of time to wait until every cell is sealed before removing. Sometimes a few scattering cells will remain unfinished for weeks.....Weak colonies in the movable comb hive, may be strengthened by giving them a comb or two filled with brood from some strong ones; shake off all the old bees; replace the frames taken out, with empty ones or empty combs....If the yield of honey is very great, some of the hives will have their combs so fully stored with honey, as to afford too little room for breeding, and the colony may be weak in consequence. Too much honey is as detrimental in wintering bees as too little. When too many combs are being filled, remove some of the outside frames that will be filled with honey throughout. Slide some of the others toward the side, and put empty ones in their places. The full combs can be put away to assist some light colony through the winter, or for the table. Keep honey dry and cool, if possible. If moth worms appear among the combs thus kept, smoke in a close box or barrel with brimstone.....It is probable that flags are as good for winter hives as straw; they may be secured now. Straw is better secured at harvest time, and put away with the heads removed. The hive may be used next winter, if made any time before December.

The Agriculturist Strawberry.

It is well known that the stock of the seedling strawberry, originated by Seth Boyden, Esq., and named the "Agriculturist," was purchased by the proprietor of this journal for the purpose of distributing plants to his subscribers. In making this purchase he ran a great risk of disappointment, as the plants on exhibition had evidently been forced by high cultivation, and it was doubtful if with ordinary treatment the same results could be realized. Still if a plant could be had, showing in only half the degree the good qualities of the one on exhibition, it would be far beyond anything we now have, and it was thought worth while to take the chances of success or failure, in the hope of being able to give the subscribers to the *Agriculturist* a fruit of superior quality. Doubtless these subscribers would like to know if the high expectations which they have formed, are likely to be realized. The fruit from plants on Mr. Judd's place is now upon the exhibition tables, and for size, beauty, solidity, and all other good qualities, it is all that it promised to be. With regard to the vigor and productiveness of the plants, if a description was drawn from those in Mr. Judd's grounds, it might be said that here the unusually rich soil and extra care given to induce their rapid multiplication had produced results which could not be taken as a fair indication of what it would do under ordinary circumstances. Every plant of the original stock, save one, was transferred to the proprietor of the *Agriculturist*; this one was purchased by Mr. W. S. Carpenter before the sale took place, and though Mr. C. was offered a large sum for his single plant, he declined to part with it. Mr. Carpenter set out his plant in soil not enriched beyond what ordinary good culture requires, and last autumn it made a good share of new plants, the majority of which were, this spring, transplanted to a separate bed. A few days ago we visited Mr. Carpenter's place to see the condition of his plants, and though prepared for a fine show, the anticipation was far short of the reality. The small plants set out this spring showed a crop of fruit large enough to satisfy any one, while it is difficult to describe the appearance of those which had not been removed, in terms which shall not seem extravagant. These plants, not a year old, formed stools measuring at least 18 inches across the leaves, and the very pictures of robust health and vigor, without a scorched or imperfect leaf upon them and *filled* with rapidly swelling fruit. The stools on all sides and in the centre were crowded with fruit stalks, each of them loaded, and without an imperfect berry or a blast to be seen. Mr. Peter B. Mead counted the fruit on three contiguous plants and found the astonishing number of 223, 248 and 294 berries to the plant. Such experienced fruit growers as Charles Downing, Peter B. Mead, and W. F. Heins have visited these plants, and all agree in considering them as something unparallcled in the history of strawberry culture. We feel warranted in congratulating those who are to receive plants of this strawberry, that its high value is now fully established, and also of congratulating Mr. Judd, when he returns from his work with the army, that all his best hopes regarding it are realized, and that his expense and trouble will result in distributing among his numerous and scattered readers the most wonderful strawberry yet known.

The Strawberry Show of 1864.

The Annual Show of Strawberries was held at the rooms of the *Agriculturist*, on the 15th and 16th of June. A slight delay in going to press allows us to give a list of the contributors, and the award of premiums. Though the display was not as large as it would have been in more favorable weather, it was a very gratifying show and marked by a very uniform excellence in the samples exhibited. Notes upon the different varieties must be deferred until another month.

ENTRIES.

Seedling (Emily); Empress Eugenie: G. W. Huntsman, Flushing, L. I.

Heston Pine; Triomphe de Gand: J. Drummond, gardencr to Mrs. Jas. Strong, Newtown, L. I.

Union: T. Y. Brown, Bergen Point, N. J.

Agriculturist; M. Olm, gardener to O. Judd. (Specimens injured by hail, and not exhibited in competition for prize.)

Boyden's Mammoth: J. C. Winans, Newark, N. J.

Triomphe de Gand; Geo. Herbert, Peekskill, N. Y.

Longworth's Prolific: J. Cooper, N. Y. City.

Triomphe de Gand: R. Davidge, Staten Island, N. Y.

Triomphe de Gand; Green Prolific; Lennig's White; White Albion; Deptford White; White Pineapple; Gen.'l McClellan; Gen.'l Scott; Garibaldi; Vicomtesse Hericart de Thury; Honneur de la Belgique; Russell's Prolific; Downer's Prolific; Wilson; Ladies Finger (this the Committee decided to be Scott's Seedling); Hot-house Pine; Perpetual; Australian Perpetual; Wm. F. Heins, Morrisania, N. Y.

Triomphe de Gand, (exhibited as Union): J. Hutchinson, N. Y. City.

Boyden's Green Prolific: E. W. Durand, Irvington, N. J.

Russell's Prolific; Austin; Hovey; Ward's Favorite; Triomphe de Gand; Bartlett; Downer's Prolific; Cutter's Seedling; Lady Finger; McAvoy's Superior; Vicomtesse Hericart de Thury; Brighton Pine; Hooker; No. 1: No. 2: E. Williams, Mont Clair, N. J.

Union: S. R. Trembley, Bergen Point, N. J.

Austin; Gen. McClellan; Downer's Prolific; Hovey; Wilson; Russell's Newark Prolific; Cutter's Seedling; La Constante (not true); Triomphe de Gand; Fillmore; Hooker; Green Prolific; Lenaig's White; Smith's Buffalo Seedling, in pots: Francis Brill, Newark, N. J.

Cutter's Seedling; Austin; Triomphe de Gand; Bartlett; Monthly Alpine; Brooklyn Scarlet: A. S. Fuller, Brooklyn, L. I.

Austin; Triomphe de Gand: L. V. Conover, Melrose, N. Y.

Triomphe de Gand: Mr. Sperry, Mariner's Harbor, S. I.

Gen. Scott; Meade's Seedling: G. Hayward, Brooklyn, L. I.

Seedling: J. Crane, Union, N. J.

Brooklyn Scarlet; Monitor; Col. Ellsworth; Russell's Prolific; Agriculturist, both fruit and a plant in pot; W. S. Carpenter, Rye. N. Y.

Scotch Runner: Gen. Wright, Forest Home, N. J.

The awards of the Committee of Judges are as follows:

For Best 12 varieties, $10: to Francis Brill, Newark, N.J.

" Second Best, $5; to W. F. Heins, Morrisania, N. Y.

" Best market berry, (Triomphe de Gand) $5; to George Herbert, Peekskill, N. Y.

" Second Best, (Bartlett) $2; to A. S. Fuller, Brooklyn Long Island.

" Three heaviest berries, about one ounce each, (Triomphe de Gand) $3 to G. Herbert, Peekskill, N.Y.

" Best flavored Strawberry, (Brooklyn Scarlet) $2; to A. S. Fuller, Brooklyn, Long Island.

" Best White Strawberry, (Lennig's White) $2; to Wm. F. Heins, Morrisania, N. Y.

" Best Alpines, $1; to A. S. Fuller, Brooklyn, L. I.

" Best New Seedling, " Emily " $5; to Prof. Huntsman, Flushing, Long Island.

No second in competition worthy of a prize, though there were some that did not come within the rules.

The Committee would notice favorably a plant of Boyden's Green Prolific, showing wonderful productiveness. The fruit is large, juicy, acid, but well flavored. The Committee would also commend Lot 16, (from L. V. Conover, Melrose, N. Y.,) consisting of very fine Triomphe de Gand, deserving a special prize, $1. Lot 13, (from J. R. Trembley, Bergen Point, N. J.,) is also worthy of notice, being large and well grown specimens of the Union Strawberry, a discretionary premium of $1. Nos. 1 and 2, of Lot 12, (from E. Williams, Montclair, N. J.) were both high-flavoredberries, and deserving of commendation in this respect.

PETER B. MEAD,
J. C. WINANS,
G. W. HUNTSMAN,
J. B. CHAPIN,
THOS. W. FIELD,
} Committee.

The "Agriculturist" Strawberry at the Exhibition.—On account of bad weather the fruit from Mr. Judd's plants was not so good as that shown for several days before. The berries, though large, were somewhat disfigured by a severe hail storm and had not that brilliant surface which is one of the striking characters of the fruit. Mr. Carpenter, however, exhibited some really fine specimens, and brought a plant of last year's runners, the one mentioned in another place as having 294 berries upon it. Mr. Carpenter sold this plant for $25, and soon after the sale was made, was offered $50 for it. It will be *gratifying* to those who, not being able to get plants, have predicted a failure of the variety, to know that a plant less than a year old showed qualities which induced such liberal spontaneous offers. Pretty good for a runner from a plant, which last year cost Mr. C. only $3—and no wonder he would not then sell his one plant to Mr. Judd for $50.

Exhibition Tables at the Office of the American Agriculturist.

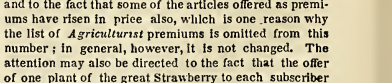
The crowded state of our columns has prevented previous notice of the following articles placed upon our tables for exhibition since our last report.

FRUITS.—*Strawberries.* Chorlton's Prolific; first o the season; shown by John Cole, Tompkinsville, N. Y.... Longworth's Prolific; N. S. Huested, 75th street, N. Y. ...McAvoy's Superior, Scarlet Magnate, Lady Finger, Vicomptesse Hericart de Thury, Cutter, Downer's Prolific, Bartlett and Hovey's Seedling; E. S. Williams, Mont Clair, N. J.... Agriculturist, O. Judd, Flushing, N. Y. ....Australian Everbearing; W. F. Heins Morrisania, N. Y....*Apples.* Hepler; Jno. C. Hepler, Reading, Pa. ....Iron; G. W. Usher, Port Richmond, N. Y....Newtown Pippins, beautiful, Charles Starr, Coxsackie, N. Y.

FLOWERS AND PLANTS.—Beautiful Bouquets; M. A. Cortelyou, Staten Island, N. Y....Ropala Corcovadensis, Yucca, Gardenia radicans, Cannas and Ivy-leaved Geraniums, American Agave, Lantanas, Petunias, Geraniums, Ferns, Begonias, Azaleas, etc.; O. Judd, Flushing, N.Y....Cut Flowers; Miss M. L. Sammis, Flushing, N. Y....Azalea Iveryana, fine specimen in full bloom: John Hutchinson, gardener to F. A. Lane, Esq. Clifton, N. Y.

VEGETABLES, ETC.—White Peach Blow Potatoes; O. Salisbury, Greenwich, N. Y., and Harvey B. Lane, N.Y. ....Prince Albert Potatoes; Peter Pillar, Sing Sing, N. Y....Tuscarora or Flour Corn; C. W. Hawkins, Lake land, N. Y.... 16 varieties Corn; Jas. M. Thorburn, John treet, N. Y....Growing Corn, 7 feet high and Watermelon, fine, from a Freedman's garden in Beaufort, S. C., brought on by kindness of Captain Gadsden, Steamer Arago....Mushrooms growing in Pots; Simpson Gordon, Staten Island, N. Y....Early Rhubarb, grown in cellar; J. C. Thompson, Quarantine, Staten Island....Cucurbacnecked Squash, fine specimen; John Farley, So. Orange, N. J....Asparagus, fine heads; R. Roberts, Middletown, N. J....Asparagus, 30 heads, weighing 4½ lbs. and later, 19 heads weighing 4½ lbs; Wm. R. Bell, Oyster Bay, N. Y....Rhubarb, Seedling from Prince Albert, fine growth, and Early Frame Cucumbers; Robert Erwood, Deer Park, L. I....Dwarf Pea, new variety, 8 inches high, excellent flavor; Wm. F. Heins, Morrisania, N. Y.. Peach Blow Potato, curious growth; J. P. Rockafeller, Jr., Copper Hill, N. J.

MISCELLANEOUS.—Duck's Egg, very large; Jacob Braun, Williamsburgh, N. Y....Hen's Eggs, very fine; Wm. A. Duter, Rockland Co., N. Y....Large Egg of Brahma Pootra, weight 4¾ oz. and Double Egg, joined in the middle; J. C. Thompson, Staten Island, N. Y.... Beet Sugar, crude; Th. Gennert, Chatsworth, Ill.... Sapotas and Mamcy Fruit, from Cuba, W. I.; F. W. Hubbard....Bust of Thomas Starr King; A. C. Edmonds, California....Shell Marl; Mr. Blanchard.



Containing a great variety of Items, including many good Hints and Suggestions which we give in small type and condensed form, for want of space elsewhere.

The Present Number goes to press a little delayed by the Strawberry Show, of which a notice may be found in another place, and which passed off very pleasantly. Mr. Judd is absent with the Army, and gives a report of his work. We would direct attention to the rise in price of books as indicated in our book list, and to the fact that some of the articles offered as premiums have risen in price also, which is one reason why the list of *Agriculturist* premiums is omitted from this number; in general, however, it is not changed. The attention may also be directed to the fact that the offer of one plant of the great Strawberry to each subscriber for this volume, is still continued, and that we have not quite reached the 100,000 circulation yet, though we are printing close on to that number. Questions accumulate faster than we can answer them; some that are answered and in type, are crowded out month after month, till finally set aside altogether. Our readers will not fail to notice the varied and valuable contents of the advertising pages. They are worthy careful reading.

The American Pomological Society.—The tenth session will be held at Rochester, N. Y., on the 13th of Sept. next. The membership fee of $2, which entitles the member to the transacti ns,

may be sent to the Treasurer, Thomas P. James, Esq., Philadelphia. Fruit, etc., for exhibition at the meeting may be directed to care of James Vick, Esq., Rochester.

The Brooklyn Horticultural Society.—It is a shame that New York City has no live Horticultural Society. Across the river in Brooklyn they have one which seems to be flourishing, if we may judge from their Exhibition held on June 15th and 16th. It was chiefly remarkable for the fine display of greenhouse plants of which there was a collection of rare and exceedingly well-grown specimens, worth a long journey to look at. Bouquets and baskets of flowers were abundant and fine, and some abominable things were exhibited, called "floral designs." There was a good display of strawberries, most of which were so badly labelled as to give but little information. A fine collection of hothouse grapes from John Ellis, Fox Meadow, and a lot of excellent Cauliflowers and other early vegetables from John Hutchinson, gardener to F. A. Low, Staten Island, were among the most attractive articles on Exhibition. Here was a fine show with but here and there a solitary spectator. Where were the people of Brooklyn?

To Inquirers about "Doctors."—Some time ago it was stated in these columns that no physician who advertised his cures was worthy of confidence. This has brought a host of letters inquiring if "Dr." this or "Dr." that was included in this sweeping statement. We have given our opinion in general terms and see no reason to modify it. Letters of inquiry in regard to particular persons will not be answered. Any one who is foolish enough to risk his money for treatment of any disease by letter, deserves to lose it, and any, calling themselves physicians, who will treat patients in this manner, are quacks. Is not this a plain enough statement of our opinion? The fact is, there is a large class of persons who are the subjects of "nervous diseases and general debility" who are beyond the reach of medicine. An honest practitioner tells them so, and recommends a course of diet and life not agreeable for the patient to follow. The Doctor who does this, is set down as knowing nothing, and the invalid, weak perhaps in mind, as well as body, catches at every thing which *promises* relief. It is barely possible that there may be skillful and honest men who advertise their cures, as it is just possible that an honest man may be found in the society of pickpockets and gamblers, but it is not probable. Any properly educated physician who puffs his own cures, knows that he puts himself without the pale of decent society, and as he adopts the ways of humbugs and charlatans, he must be classed with the company of his choice.

Are You Insured?—The burning of a house or a barn, may so cripple a man as to cause the loss of all his property even, and blight his prospects for life. It is well therefore, to pay a small sum annually to be secured against such loss, and no prudent man will omit to do so.—But a man's *life* is quite as uncertain as any human possessions, and his loss a vastly greater one to his family or those depending upon him for support. One may possess a competency now, and feel that he can leave his family or friends in comfortable circumstances, but who can be assured that his wealth will be permanent—that it may not fail just when it may be about to be most needed. We think it wise, therefore, for every man to contribute a small sum each year to secure a reasonable provision for his family, to be available after he leaves them. The matter should not be deferred until to-morrow, because one is in health *to-day*. Death seldom takes those looking for its approach; it is almost always a surprise. The old established large Life Insurance Companies are safe and reliable. A safe rule is to enter no Company not having been established for half a dozen years, nor one whose annual expenses eat up twenty to forty per cent or more of its income.

The Express Package Humbug.—Allusion has already been made to this swindle, in the *Agriculturist*, but as the game is still being carried on, and some of our readers have been caught by it recently, another warning is needed. The following letter was received by a Postmaster in Illinois.

"Tuttle's Corners, Sussex Co., N. J.

"Sir, I have a package directed to your address which I will forward on receipt of 35 cents in stamps, and a three ct. stamp for this notice.

Yours, J. H. TUTTLE.

The person addressed, supposing some one desired to send him a present, forwarded the amount, and that finished the business, as nothing further was heard from Mr. Tuttle.—Does the Postmaster at Tuttle's Corners know anything about this matter? The P. O. regulations are strict as to the forwarding of bogus matter like the above. Letters like this from any unknown parties may at once be set down as attempted swindles.

Humbugs in General.—Wm. Cottew, La Salle Co., Ill., communicates to the *American Agriculturist* his ideas on this topic as follows: "Humbug is not confined to cheating in money matters alone; it creeps or runs into customs and manners, ladies' dresses, "long drawn out" skirts; [How about men's coat tails?—ED.] and those horrid bonnets, and stiff hats over bags of hair. I wish some sensible person would invent a neat, useful dress, and patent it. I believe if Eugenie Bonaparte should decorate her august upper lip with a moustache, or imperial chin with a goatee, some of our ladies would glue the same on their faces." "'Tis true, tis pity—pity 'tis, 'tis true!"—That will do.

Drain Pipe Wanted.—We have letters from Missouri inquiring for Drain tile near at hand. Those who can supply that region had better advertise.

A Disease among Tomatoes.—A. B. Denyse, Esq., of Long Island, who raises tomatoes for the N. Y. Market, has shown us specimens of a disease which it is feared will destroy the crops in some instances. The disease first appears upon the ends of the leaves, which look as if scorched; the leaf soon decays and the disease extends down through the stem and ultimately destroys the plant. As far as is known, this trouble is confined to places near the shore. No signs of insects nor mildew were perceptible, and from all that can be learned, it appears to be due to sudden changes of temperature.

Dwarf Flag for Edgings.—Ann O. Hull, recommends the Dwarf-flag or Iris (*Iris pumila*) as an edging for the beds of gardens. It begins to flower in March and continues through April; and when out of bloom, the short compact growth of leaves makes a neat appearance. It is worth trying.

A Fine Seedling Rose.—Messrs. J. S. Burgess & Son, of East New York, have decorated our tables with a number of fine roses. One of them, called Pocahontas, is deserving of special notice. It is a seedling of the Queen of the Prairies, and possesses the vigor and habit of that variety, but has much larger and darker flowers, which are fragrant. It will be very popular.

Fine Pansies.—B. K. Bliss, of Springfield, Mass., has sent a box of beautiful pansies of great variety of color and markings, and though not the largest we have seen, they are very perfect in form.

Garden Seeds.—A. T. Northrup, Delaware Co., N. Y. The list was only intended to contain those seeds which are generally kept, hence the Stone Mason cabbage, and others recently introduced were omitted.

Beans.—"H. R. C.," Guilford, Conn. The bean with pods three feet long is the Asparagus, or Yard-long Bean; this and the white and red Cranberry Pole-bean may be had at Thorburn's and other seed-stores.

Photographs.—Almost the only good large-sized photographs of large animals we ever saw were received a few days since from Charles L. Sharples of Chilten Hill, Pa. They are strikingly beautiful pictures of two imported Jersey cows, "Flora" and "Juno."

Hoven in Cattle.—"Cattle affected with this disease may be easily relieved by the following method, which has been successful where the straw rope has failed. Fasten the animal to the stall, force the mouth open, lay hold of the tongue, and commence pumping, by drawing the tongue back and forth, to be continued fifteen or twenty minutes if necessary. The operation permits the escape of gas." So writes a correspondent.

Good Milker.—L. Williams, of Cayuga Co., N. Y., carefully weighed the milk given by a native cow of his for one week, ending May 20th, with the following results: 14th, 43 lbs., 15th, 45 lbs., 16th, 46 lbs., 17th 48½ lbs., 18th 47½ lbs., 19th 48½ lbs., 20th, 45 lbs.—Total, 323½ lbs., or over 40 gallons.

Sheep Barn.—M. B. Bliss, of Kane Co., Ill. wants some hints through the *Agriculturist* in regard to building a barn with sheds and racks to accommodate 600 sheep. We shall be very happy to further his wishes, and publish one or more good plans. Will not some of the sheep raisers among our readers give their opinions with plans of their barns, sheep sheds, etc.

Plants for Names.—R. McCurdy. The plant marked Bittersweet, is *Celastrus scandens*, sometimes called False Bittersweet, but more commonly Waxwork. The one called Woodbine, is the true Bittersweet—*Solanum Dulcamara*... E. D. Velie, Suspension Bridge, sends *Houstonia purpurea* variety *ciliolata*, which is a western form of the common Bluets. The shrub sent by P. F. Hatch, Washington Co., N. Y. is *Azalea nudiflora*, the Purple Azalea or Pinxter Flower. It is a fine shrub, presenting a great many varieties in the wild state, and ought to be more cultivated. It is not rare in the Eastern States, and it extends to Virginia.

The Currant Worm.—A gentleman who has had considerable experience with this pest, gives his method of treating it. A pailful of soft soap is dissolved in forty gallons of water, a pound of nitre (or saltpetre) is added, and the bushes thoroughly syringed with this compound. It must be used on the very first appearance of the worm, as that increases so rapidly and works with such rapidity, that it will soon be too late.

Forced Peaches, Nectarines and Plums.—Mr. Isaac Pullen, of Hightstown, N. J., has repeatedly placed upon the exhibition tables at the office of the *Agriculturist* specimens of Peaches and other fruits from his Orchard-houses. The Peach, by far earlier than any other, is the Hale's Early, some of which ripened as early as May 8th; heating having been commenced as early as Jan. 1st. At the Strawberry Exhibition, June 15th, Mr. P. exibited fine specimens of Early York, Early Cling, Hale's Early, Crawford's Early, Honey, Cooledge's Favorite and Beauty of China Peaches,—New White, Hardwick, Pittmaston's Orange and Early Newington Nectarines,—and River's Early Prolific Plum.

Trouble with Hot-beds.—Several have written complaining of their failure in hot-bed management. One of the common difficulties is putting too little soil upon the dung within the frame. Another is the burning of the plants during a hot day when the sash is left on. This is the trouble with J. M. M. and others. Thos. Miller of New Brunswick describes a trouble which we cannot understand without seeing the beds. It would appear to be due to a sort of fungus, and we suggest procuring fresh earth to place within the beds.

"In Vacuo."—What does it mean?—"J. D."—The word *vacuum* means a space in which *nothing* is. A perfect vacuum can hardly exist,—the least particle of air *fills* the largest space—a drop of water furnishes vapor which equally fills any space which is otherwise empty—(from which the air, or other contents, is withdrawn by any means.) It is the pneumatic pressure, (the pressure of air or vapor) on the surface of liquids which determines the temperature at which they will boil. Thus when the barometer stands at 30 inches, water boils at 212° F; at the top of a mountain the pressure of the air is less and it boils at a temperature often so low that it will not cook food. In a close steam boiler the pressure is great, and water boils at a very much higher temperature. By means of an air pump the pressure in a close vessel like a boiler can be greatly *decreased*, and a partial vacuum formed, the result of which operation is, that the liquid is boiled down at a low temperature, and very rapidly, the vapors being withdrawn as fast as formed. This is called boiling or evaporating "*in vacuo*," and the practice is very valuable in concentrating liquids which would be cooked and their properties changed at a higher temperature, as milk, cider, fruit juices in general, the juice of sugar cane, beet juice, etc.

A walk from London to John O'Groats.—Elihu Burritt made a journey on foot from London to the farthest point in Scotland, mainly with the view of writing upon the agriculture of the country. He has recorded his experience in the handsomest book we have seen in many a day. The paper, type, and binding are faultless, and the photographs of the author and Jonas Webb, and two other distinguished agriculturists are beautiful specimens of art. The amount of information given about agricultural matters might have been published in a volume less than one-fourth the size of the present one. The book is mainly filled with the author's reflections upon birds, donkeys, trees and flowers. A hollyhock affords him a text for a dissertation of twenty five pages in which he runs the whole round of creation, exhausts philosophy, gives a touch of theology, and is exceedingly tedious, as he is all through the book. Being a book for American farmers it is seasoned with Latin, French and Hebrew, and even newly manufactured English words are coined to suit his purpose. What will our farmers say when Mr. Burritt tells them that the potato grew wild, two hundred and fifty years ago on the banks of the Connecticut? When Mr. B. gravely records that he has seen a field of barley raised from oats, and accepts the statement as "proving the existence of a principle or law hitherto undiscovered, which may be applied to all kinds of plants for the use of man and beast," we come to the conclusion that he does not possess the qualifications necessary for an accurate observer of agriculture. Scribner & Co., never issued a more beautiful nor a "slower" book than this.

Botts. Prevent rather than Cure.—This parasite is the *imaginary* cause of almost all the ills that afflict the horse. What harm it really does nobody knows, but the natural presumption is that it does no good, though there are some learned veterinarians who claim that botts are really of service to the horse in promoting digestion as a sort of tonic stimulant. For our own part however, we very much prefer that Dobbin should have none of them. It is incontrovertible that no safe medicine taken into the stomach will affect the bott grubs, which adhere to the walls of the stomach.—When they get ready they will leave, being 'cast out into the draught,' and though milk and molasses and similar things sometimes seem to have a tendency to coax them away, this is inoperative, except when the stomach contains mature grubs. The Gad-fly, the parent of the bott, lays her eggs on the inside of the fore legs of the horse, and on the shoulders chiefly. It has for some time been the writer's opinion that these parts of the horse might be oiled with either simple grease, or with grease mixed with some drug or essential oil, (turpentine or oil of cloves) and the fly repelled. We have no conveniences this year to test the value of this idea, but throw it out for the benefit of the readers of the *American Agriculturist*.

Scratches vs. Grease.—"Greeney." Gunpowder and lard (in proportion of two of lard to one of powder) is a not a *sure* cure for scratches, not even after washing the horse's legs with castile soap, and drying carefully; but it is a very good application.

Sixty Year Old Pony.—The London papers notice the death recently of a pony at the remarkable age of sixty years.

Brine for Poll Evil.—P. A. Ross, Green Co., Pa., writes to the *Agriculturist* that he cured the disease known as Poll Evil in the horse, by injecting into the opening strong brine of common salt, with a syringe. The sore dried up after the first application, but having broken out again a second dose entirely cured it. The case was one of two years' standing.

The great White Ox.—"Pride of Livingston" was sold by Col. Thos. F. De Voe, of the Sanitary Fair Agricultural Committee, to Mr. Carlos Pierce, of Boston, a retired merchant who has a beautiful farm and country residence in the town of Stanstead, Canada East, a few miles north of Newport, Vermont, whither the ox was taken for further feeding. The price was $1,000, the highest on record paid for a fat ox.

A great Opportunity for Profitable Business.—The subject of *Live Stock Insurance* is one of great importance to stock owners, and moneyed men would find investments in companies chartered for this purpose very profitable. As yet none exist in this country so far as we know. We believe that the practice of insuring valuable animals by private parties is sometimes practised, but not to any considerable extent.

The Insurance of Crops.—That is, insuring the farmer, after he has prepared his ground and sowed his seed, against a small crop or a failure altogether, through hail, drought, rain at harvest, insect ravages, etc., is a subject well worthy of the attention of those who have money to invest. It is extensively practised in Great Britain and on the continent.

Logs and Stumps in Pastures.—Erastus. The logs should be put in heaps and burned, and the ashes scattered. The question of removing stumps depends upon the relative value of land and labor. It is generally best to let the stumps rot for a few years.

Trap-rock Soils.—"Orenaug".—Decomposed trap-rock makes as good a soil as exists in the world. The kind of manure it needs depends upon the cropping and working it has been subjected to. If yours be situated on a hill-side, so that the soluble and finest portions have been washed down to the plain or valley, common barn-yard manure is doubtless best. If it has been long pastured and cropped with grain, or mowed and seldom manured, bone dust, plaster, lime, and salt will be found good applications.

Girdled Trees.—"A. M. E.", Beaverdam, Wis., has young trees girdled by rabbits about a foot from the ground, and asks when to cut them, in order that young shoots may spring up. The course to be pursued will depend entirely upon the way the tree was treated in the nursery. If it was worked low and a shoot can be obtained from above the bud, it may pay to cut them down and grow a tree from this bud. This will depend altogether upon the age and condition of the tree. The cutting may as well be done at once, or if there is danger of injury to the new shoot, do it in autumn.

Dahlias and Gladiolus.—"W. C. S", Laporte, Ind. The Calendar always indicates the time for starting Dahlias in the hot-bed or house. They will bloom if started out of doors. It is not necessary to start Gladioluses in pots, though flowers may be had earlier if they are forwarded in this way.

Cranberry Ground.—"R. C. R." The land you describe is well adapted to cranberry culture. Shut off the water from it; dry the land by systematic draining; cut off the bogs and flags, piling them in windrows so that when dry they may be burned; burn them and plow the land, twice if possible. If by this means you can get it into good order, plant this fall, and after planting let water on enough to keep the soil quite moist, and be prepared to take advantage of the usual high water late in the fall after growth has stopped, or early in winter, to flood the whole and keep it flooded until spring. Mark those of the wild plants you speak of which are prolific and produce large fine berries, and use these rather than expect to buy better ones.

Ozier Willow Fence.—Fay Hopkins, Lorain Co., Ohio, writes: "I am trying to raise a hedge fence of the ozier willow; can you tell me when, and how the shoots should be bent down and woven together?"—Cut back in the fall or spring allowing only a few of the shoots grow (two or three, according to closeness of the plants.) If they grow strong enough, at the end of the second year, weave them together after the leaves fall, inclining each stem at an angle of about 45 degrees.

A Box for Mailing Strawberry and other Plants.—The call made some months ago for a box suitable for packing the plants of the Agriculturist Strawberry, drew out a large number of devices of various degrees of merit. The samples were carefully examined, and the choice fell upon that sent by Mr.

M. D. Thompson, 135 Montague St., Brooklyn, L. I. The engraving gives a view of the box as opened to receive the plant. It consists of a thin wooden cylinder completely cut through on one side and partly so on the other, so as to be flexible and allow it to be opened. The ends are closed by circular pieces fitting in grooves, and one of them has a hole for ventilating the interior. The plant, with the roots properly protected, is placed in the box, which is then closed and secured by pasting a directed wrapper around it. Packed in this way it is believed that all injury from the rough usage of the mail will be avoided, and it is hoped that each subscriber who has applied for a strawberry plant will receive it in good condition.

This style of box was selected as combining strength, neatness, ease of packing, and cheapness, in a greater degree than any other, and there is no doubt it will come into general use. The invention is patented.

Many Potatoes for One.—M. J. Cowell, of Cayuga Co., N. Y., has been experimenting upon the yield of potatoes and succeeded in getting 217 from one potato, the most in 12 experiments; variety not named.

Cabbage Seed.—L. P. Rogers, Knox Co., Ill. Cabbage seed raised from the stalks would soon deteriorate. The best cultivators of seeds raise from the finest heads only and of these allow only the central and strongest shoot to grow.

Onions from Seed.—"J. W. V.", Millersburg, O. At the East there is no difficulty in maturing onions from the seed the same year of sowing. Where the climate is warmer, they must be sown as soon as the ground is open in spring, or they will make only small onions. Perhaps the best way with you will be to sow thickly for sets to be kept over winter, to be put out to complete their growth the second year.

Does Sorrel ever Abound on Limestone Soils?—"J. M. R.," of Cumberland Co., Pa., says that it does, but that with proper cultivation it is easily destroyed. May we not have some other responses to this question which was asked some months since?

New Remedies for Bugs.—"R. B. S." of Georgetown, D. C., applies to the hills of melons, etc., when young, a free sprinkling of corn meal, and renews it after a rain. He says this is effectual.... Another, and one who has had great experience with insects, says that a decoction of parsley, made with roots and tops, sprinkled over the plants will keep off the striped bug. We shall try these simple remedies.

Work on Entomology.—"Z. P. K." and others. Harris' Insects Injurious to Vegetation is the best general work yet published. Price with colored plates $4.50 by mail. In the transactions of the New York State Agricultural Society for the years 1855, '56, '58 etc. are valuable papers by Dr. Asa Fitch.

Insects by Mail.—A number of persons have sent specimens of grubs and beetles in letters, and they have arrived in such a crushed state that it is impossible to recognize them. Perfect insects should be sent in some kind of box. Larvæ are usually worthless unless preserved in spirits, and in that case the package cannot go by mail, as breaking would injure letters.

A Destructive Insect.—S. S. White, Esq., Knox Co., Ill., sends specimens of a beetle which is very destructive to the orchards in his locality. The insect is the New York Weevil (*Ithycerus curculionoides*) which was noticed and figured in August last year.—p. 242.

Aphis on Currant Bushes. Amateur, New Bedford, Mass. Probably the close situation of the bushes favors the development of these insects. Syringing with tobacco-water is recommended. In England a soft brush is used, like a pair of pincers, to surround the limb and brush off the insects without injuring the plant.

Weeds in Paths.—E. M. Swan, Meade Co., Ky. We have little faith in the efficacy of any other than a mechanical application to destroy weeds in walks. Poisons will be very likely to spread and injure the neighboring vegetation. A walk made as directed in last May's *Agriculturist* will afford but little foothold for weeds. A sharp hoe used so as to cut very shallow, and subsequent raking and rolling will keep walks clean.

"Parasitic" Weeds on Lawn.—"H. F.", Oragne, N. J. We know of no parasite troubling he lawn. Let us see a specimen.

Blue Grass for Lawns.—E. V. Oven Du Page Co., Ill. Sow alone and rake in very slightly, or sow on freshly raked ground and roll. See Calendar for evergreens.

Edgings for Flower Beds.—C. D. Mc Kinley, Wayne Co., Iowa, wishes to know of some plant suitable for edgings which can be raised from seeds. The best plant of this kind which occurs to us is the Thrift, (*Armeria vulgaris*) described and figured in the *Agriculturist* last July. The common garden pink is sometimes used, but its color is too dull to be pleasant.

Apocynum androsæmifolium.—C. A. Gahne, Me. This is commonly called Indian Hemp, and grows so generally throughout the country that the seeds are not kept in the stores. It is doubtless abundant n your State.

Cactuses.—"A. M.", Detroit, Mich. A strong plant, properly treated, usually flowers every year. They should be kept quite dry, giving only water enough to prevent wilting, during the winter. When the buds and growth begin to start in spring, keep the soil moist until flowering is over and they have made their new growth.

Black Knot.—Our neighbor of the Horticulturist is certainly behind the times when he says in his June number: "It has not yet been settled whether the black knot is caused by an insect or whether it is a disease of the sap." It is not necessary to settle this question, as it is not either. More than 40 years ago Schweinitz showed that it was a fungus, which attacks young healthy trees and which was reproduced and illustrated in the *Agriculturist* for April, 1863.

Wild Morning Glory.—"G. G.," Ottawa, Ill. This can only be eradicated like quack grass, by persistent work. The roots must be carefully forked out and left to dry. No application to the soil will kill them and not injure the crops.

Works on Botany.—A. B. Gage and many others. For a knowledge of plant structure get Gray's Lessons, and for systematic descriptions of native plants, Gray's Manual. The latter is illustrated with excellent plates of the Grasses, Ferns, etc. They may be had seperate or both in one volume, sent by mail for $2 50.

The New York State Fair.—The list of premiums and regulations for the Fair which is to be held in Rochester, Sept. 20th to 23rd, has been received from the Secretary at Albany who distributes them gratuitously to applicants. The list of premiums is large and liberal, covering almost every branch of industry.

An Agriculturist Notice.—The immense circulation of the *Agriculturist*, and the care with which it is read, are well illustrated by the following among many incidents of the same kind. In the last number a subscriber asked for a copy of an old song entitled "The Rolling stone." Very soon copies of it began to arrive, one, two, or three a day, until we have quite a pile of them. If information of any kind is asked for and cannot be furnished by some of our readers, it is safe to conclude that it is unattainable.

The Fence Tax.—Even in these days of heavy taxation, the tax upon farmers in many districts to keep up their fences is estimated as greater than all others put together. This ought not to be so. The introduction of live fences, or the regular "hedge and ditch" of England, in some parts of the country, would be some relief; but our laws in regard to fencing highways and between adjoining proprietors ought certainly to be changed. The farmers can do it if they choose.

Sheep and Carrots.—There seems to be considerable anxiety, among some Sheep farmers, to know if it hurts sheep to eat all the carrots they want. We have had four or five similar inquiries, and would say "*No*," positively, were it not that there are some reports of sickness which was attributed to this cause. Who can throw the light *of facts* on this subject?

Ashes for the Curl in Peach Trees.—R., of Norwalk, Conn, states that he has successfully treated the curled leaf by dusting ashes upon the trees while wet with dew.

Grapes for Michigan.—"Michigander," Barry Co. Delaware and Concord are hardiest and best. Any good corn land will do. Leaf mold from the forest composted with barn-yard manure would be good.

Sugar from the Box Elder.—The *Negundo aceroides*, Box Elder or Ash-leaved Maple, is a small tree with maple-like fruit, and ash-like foliage. Mr. G. J. Frick, Montgomery Co., Ill., sends a sample of very good sugar made from the sap; he says that two pailfuls of the juice will make, when boiled down, 1 quart of sugar.

A new Use for Gourds.—R. J. Heiman, Conn., says that when a boy he used gourds to aid him in floating on the water and suggests that they would make good life preservers and such as would not be affected by salt water. We do not know how many gourds can be grown on an acre. They easily crack and break.

Sunday School Question Book.—Price Changed.—Owing to the increase of Printing Paper, materials, etc, the price of the Question Book will be increased, after the first of August 1864, to 12 cents for single copies, or if sent by mail the following prices will be charged—allowing 3 cents postage on any number over 10 copies.

1 copy, 16 cents.	4 copies, 60 cents.	7 copies. 1 04 cents.
2 copies, 32 cents.	5 copies, 76 cents.	8 copies, 1 20 cents.
3 copies, 48 cents.	6 copies, 92 cents.	9 copies, 1 36 cents.

"Facts for Farmers," Solon Robinson's Book.—A quarto volume of more than 1,000 pages. The matter is thoroughly classified and arranged under independent paragraphs, and fully indexed. The work is illustrated by numerous finely executed steel engravings, and has an almost speaking likeness of the author, with his snowy beard. The book, large as it is, is full of meat—nuts cracked, and the kernels only offered—concentrated pabulum, but rich food for thought on every page. Published by A. J. Johnson, 113 Fulton street, New York. Sold only by Agents.

Wax Flowers and Skeleton Leaves.—S. E. Tilton & Co., of Boston, have published two manuals, one upon Wax Flowers and Fruit, giving direction for preparing the wax and making it up, and the other is a similar treatise on Skeletonizing Leaves, Capsules, etc., and making those beautiful objects known as phantom bouquets. The directions seem sensible and practical, and the works are properly illustrated. The books are on excellent paper, and, considering the fine style in which they are produced, cannot probably be sold for less than the price charged, ($1 50). We should have preferred cheaper hand hooks sold at a price within the reach of every one. These are placed on our list.

Commercial Notes.

The following condensed, comprehensive tables, made up to June 16, show the transactions the past month.

1. TRANSACTIONS AT THE NEW-YORK MARKETS.

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
28 days *this* m'th	357,000	3,130,000	689,000	20,200	264,000	1,779,000
25 days *last* m'th	281,000	219,000	143,000	31,100	174,000	376,000

SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*
28 days *this* month,	515,000	4,156,000	668,000	13,100	45,000
25 days *last* month,	373,000	511,000	938,000	9,200	111,000

2. *Comparison with same time last year.*

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
28 days 1864..	357,000	3,130,000	689,000	20,200	264,000	1,779,000
25 days 1863....	569,000	3,162,000	3,204,000	27,000	58,000	1,610,000

SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley*
28 days 1864......	515,000	4,156,000	668,000	13,400	45,000
25 days 1863......	375,000	3,256,000	3,631,000	82,000	56,000

3. *Exports from New-York Jan. 1. to June 16.*

	Flour, bbls.	Wheat, bus.	Corn, bus.	Rye, bus.	Oats, bus.
1864........	921,785	5,618,979	133,892	405	19,748
1863.......	1,068,989	5,759,353	4,379,779	280,287	103,588
1862........	1,261,118	5,912,421	5,916,825	799,166	20,887

The following comparative table shows the quantity of Breadstuffs left at tide-water at Albany, from the commencement of navigation, to and including the 14th of June in the years indicated:

	Canals opened May 1, 1862.	May 1, 1863.	April 30, 1864.
Flour, bbls..........	185,200	181,300	77,100
Wheat, bushels......	5,234,100	3,360,400	3,173,900
Corn, bushels........	1,977,300	3,978,300	554,200
Barley, bushels......	317,100	49,500	123,300
Oats, bushels........	542,500	1,667,700	2,352,600
Rye, bushels.........	209,900	48,500	63,100

CURRENT WHOLESALE PRICES.

	May 14.	June 15.
FLOUR—Super to Extra State	$6 60 @ 7 40	$7 65 @ 8 40
Super. to Extra Southern	7 30 @10 50	8 20 @11 60
Extra Western..............	7 00 @10 50	8 10 @11 00
Extra Genesee..............	7 50 @ 9 00	8 50 @10 00
Superfine Western...........	6 65 @ 6 95	7 70 @ 7 90
RYE FLOUR..................	5 25 @ 6 75	7 00 @ 8 25
CORN MEAL..................	6 25 @ 6 65	7 40 @ 7 85
WHEAT—All kinds of White..	1 70 @ 1 87	2 09 @ 2 12½
All kinds of Red............	1 52 @ 1 70	1 80 @ 2 00
CORN—Yellow...............	1 41 @ 1 42	1 48 @ 1 53
Mixed......................	@ 1 42	1 44 @ 1 47
OATS—Western..............	87½@ 88½	91 @ 92
State......................	87 @ 88½	90 @ 91
RYE........................	1 48 @ 1 50	Nominal.
BARLEY.....................	1 35 @ 1 50	Nominal.
COTTON—Middlings, per lb....	85 @ 86	1 40 @
HOPS, crop of 1863, per lb.....	18 @ 30	15 @ 28
FEATHERS, Live Geese, p. lb..	70 @ 72	80 @ 82½
SEED—Clover, per lb.........	11 @ 11½	12½@ 13
Timothy, per bushel.........	2 50 @ 3 00	2 75 @ 3 25
FLAX, per bushel............	3 45 @ 3 55	3 35 @ 3 50
SUGAR—Brown, per lb........	14½@ 19	15½@ 22½
MOLASSES, New-Orleans, p.gl..	90 @ 1 00	87½@ 1 00
COFFEE, Rio, per lb..........	43 @ 46	41 @ 44
TOBACCO—Kentucky, &c, p.lb..	12½@ 30	12½@ 30
Seed Leaf, per lb............	18 @ 65	18 @ 65
WOOL—Domestic fleece, p. lb..	70 @ 85	75 @ 88
Domestic, pulled, per lb......	62½@ 80	65 @ 86
Wool, California, unwashed..	20 @ 50	20 @ 60
TALLOW, per lb..............	13¼@ 13¾	15 @ 15½
OIL CAKE, per tun...........	50 00 @60 00	55 00 @63 00
PORK—Mess, per bbl.........	28 12½@28 25	37 00 @37 50
Prime, per bbl..............	24 00 @24 50	32 00 @32 25
BEEF—Plain mess............	15 00 @18 00	17 00 @20 50
LARD, in bbls., per lb	13 @ 14¼	15¾@ 16¾
BUTTER—Western, per lb.....	24 @ 32	25 @ 32½
State, per lb................	28 @ 34	28 @ 38
CHEESE.....................	14 @ 18	10 @ 18
BEANS—per bushel...........	2 65 @ 2 95	2 50 @ 2 80
PEAS, Canada, per Bushel....	@ 1 18	1 40 @
Broom Corn—per lb...........	9 @ 12	12 @ 14½
EGGS—Fresh, per dozen.......	20 @ 21	22 @ 23½
POULTRY—Fowls, per lb.......	15 @ 17	18 @ 20
Turkeys, per lb..............	16 @ 19	17 @ 18
PIGEONS—Wild, per doz......	1 75 @ 2 00	1 25 @ 1 50
POTATOES—Mercers, p. bbl....	3 50 @ 3 75	3 50 @ 4 00
Peach Blow, per bbl..........	3 50 @ 4 00	4 00 @ 4 25
Prince Albert...............	3 00 @ 3 25	3 00 @ 3 50
New Bermuda, per barrel.....	@10 00	9 00 @10 00
DRIED APPLES, per lb.......	9½@ 11	10½@ 11½
DRIED PEACHES, per lb.......	26 @ 28	26 @ 28
DRIED RASPBERRIES per lb..	26 @ 28	28 @ 30
APPLES, Baldwins & Pippins.	4 00 @ 4 50	5 00 @ 6 50
Apples, Russets, extra, p. bbl.	3 75 @ 4 75	5 00 @ 6 00

The business in Breadstuffs during the past month has been on an extensive scale, and has been mainly of a speculative character, though shippers have purchased Flour and Wheat freely, in part to arrive, from the interior during the summer months, at rapidly advancing prices, stimulated by the rise in gold from 173 at the date of our last, to 197, to-day. The specie value of common extra Western flour was $4,05; to-day, June 16, the same quality of flour is worth $4,11 in specie. Thus, though the currency price of this grade of flour shows an advance of $1,10 per bbl. the increase with specie value of it is only 6 cents per bbl. Apply this rule to the currency prices of produce given above, the apparently large advance will be materially reduced, on the whole list. Yet a sufficient improvement has been established in most articles, to justify the remark that both in breadstuffs and provisions the month's business has been decidedly prosperous, and the prospect at the present is quite encouraging. Current receipts are moderate, and do not add to the available supply, as they generally change hands ahead of arrival, and are not again offered for sale in this market....Cotton has bounced up briskly, having advanced about 55 cents per lb., during the past month, with lively sales to manufacturers and speculators .. Tobacco has been more active and tending upward....Hay has been more abundant and has declined....Seed, Hemp, and Feathers' held higher, but have been quiet.

WOOL.—The transactions in Wool have been very liberal, chiefly for manufacturing purposes, and prices have steadily favored sellers, in view of the reduced stocks available, the rise in gold, exchange, and cotton, and the high tariff legislation of Congress, all of which redound to the benefit of domestic wool growers. Advices from the West are to the effect that the clipping has progressed to a favorabe extent and that small "blanket" lots have been sold, though not in sufficient quantity to establish a market price. The bulk of the Western Wools of the new clip, as far as we are able to gather reliable information, are held at a range of 70c@80c, including Michigan 75c., and fine Ohio at 80c.; and it is probable that the market will open at something under these rates. This will afford a fair profit to the grower.

New York Live Stock Market.—BEEF CATTLE.—Since our last report of this market, beef cattle have reached most extraordinary prices,—such as have not been known in this city for many years, if ever, before. The average weekly supply has been 4,287 head—fully up to the demands of the market. The first week of the month, commencing May 16th, beef caltle advanced about ½c. per lb. The next week the supply was light, and the prices of the previous week were sustained. Monday, May 30, the receipts were still lighter, and salesmen opened their sales about 2c. higher than the week before, selling the best of the market at 20c. per lb. net; and as the estimates were in favor of the seller, even higher figures were doubtless paid. The general selling price was from 17c. @ 19c., while the average was about 18c. Such exorbitant rates were, however, too elevated to hold, and speculation was destined to receive a check. The next week, there was a large increase of beeves, and the market commenced to decline, and this week, ending June 13th, the receipts continue fully up to the demand, with a further falling off of ½c @ 1c., we should judge; prime bullocks selling at 18¾ @ 19½c. on the estimated weight; general selling prices 15c. @ 18c.—the poorer average quality of this week having considerable effect in lowering the price The market has been dull the past week, and we look for a still further decline. Beef is too high, and the farmers do not get the high prices. Let the public lessen the consumption of this article, and thwart speculation. The season is fertile in other articles of diet, and a limited consumption of beef can for a while be tolerated, which would teach speculators a needed lesson.

Milch Cows.—The arrivals average 187 per week. The range of prices is wide, extra cows averaging from $80 to $100; fair to good, from $45 @ $60. The market this week is heavily supplied. The show is good, but the demand is not active, and sellers report a modest decline in prices.

Veal Calves.—Weekly average, 1,305. The calves now offered are improved in quality, and sell actively, the high prices of beef creating a better demand. Prices rate this week at 8½c. @ 12c., live weight.

Sheep and Lambs.—Average weekly receipts about 6,166. Since our last report sheep have made a decided advance, wool sheep reaching 13c., and shorn 10½c., live weight. There has, however, been a decline from these prices, and quotations stand at about the figures of the close of last month; shorn sheep at 6½c. @ 8½c. As the past month has been the shearing season, wool sheep have been comparatively scarce. We hear of sales the last week, at 10½ @ 11c. Lambs have sold as high as 14c.; this week at 11c. @14c.

Live Hogs.—Average weekly receipts, 12,473. The market has been active, and prices for the first week of the month experienced a repeated advance. For the last two weeks, the market has been steady and brisk. Our last quotations are 9 @ 9¼c. for prime hogs, live weight; dressed, 11c. @ 11¾c.; medium 8¾ c. @9c.; light and fat, 8¾c. @ 9c.; still, 8¾c. @ 9c. This is an advance of from 1 c. @ 1¾c. over the closing prices of last month.

Things Supplied by the U. S. Sanitary Commission.

WHITE HOUSE, Va., June 7th, 1864.

It will be a matter of interest to the contributors of the funds, and especially to the friends of the soldiers, to know *what* is supplied by the U. S. Sanitary Comm[illegible] The following is only a partial list of the [illegible]ssion. hand at this place yesterday. They are [illegible] supplies on a dozen Steamers, Barges, and S[illegible] on board of half and are being carried on sh[illegible]hooners in the river, tents, and part to some [illegible]e, part to eight distributing [illegible] 40 four-horse wagons which are

carrying them to the "front." There are about 100 teamsters, porters, etc., engaged in handling the stores, manning the boats, etc., and 150 or more of the hired, and volunteer "Relief Corps" engaged in distributing directly to the wounded and sick, and in dressing wounds, and caring for the men otherwise. These articles are all needed; the use of most of them will be obvious to every one: others are required for tents and other work.

This list contains an assortment forwarded from the general storehouses, about in the proportion they are expected to be needed. Daily orders go off for any articles of which the stock is being drawn down.

Condensed Milk	6233 cans.	Frying Pans	6
Soft Crackers	3612 lbs.	Coffee Pots (large)	16
Farina	1856 lbs.	Nutmeg graters	7
Sugar	4556 lbs.	Tin ware (assorted)	12 boxes.
Tomatoes	16,207 cans.	" "	1 bbl.
Corn Starch	791 lbs.	" "	2 bbls.
Chocolate, prepared	3310 lbs.	Saleratus, lbs	50
Ground Coffee	884 lbs.	Baskets	5
Coffee Extract	192 lbs.	Shirts (woolen)	4469
Cocoa	60 lbs.	Shirts (cotton)	1304
Oat Meal	1000 lbs.	Shirts (hospital)	1133
Corn Meal	400 lbs.	Drawers (woolen)	571
Gelatine	24 lbs.	Drawers (Canton F.)	847
Macearoni	100 lbs.	Socks (cotton)	1915
Arrow Root	80 lbs.	Socks (woolen)	1645
Rice	200 lbs.	Wrappers	893
Butter	180 lbs.	Slippers (pairs)	733
Flour	11 bbls.	Shoes (boxes)	5
Peaches (2 lb. cans)	447 cans.	Boots (box)	1
Pears (2 lb. cans)	160 cans.	Pants (large box)	1
Eggs, fresh	160 doz.	Pickles (gallons)	203
Beans, green	100 lbs.	Cabbage, carried (barrels)	50
Roast Chicken (2 lb. c.)	216 cans.	Sauerkraut (barrels)	218
Roast Turkey do.	300 cans.	Tobacco, smoking (lbs.)	915
Roast Beef (2 lb. cans)	2400 cans.	Tobacco (lbs)	15,500
Beef Soup, condens'd	256 cans.	Salt (sacks)	2
Other canned meats	2200 cans.	Wooden Pails	60
Hams	2 bbls.	Medicine boxes	4
Jamaica Rum	516 bottles.	Bromine	2 lbs.
Brandy	840 bottles.	Chloroform	60 lbs.
Sherry Wine	600 bottles.	Quinine	1 box.
Whiskey	1475 bottles.	Camphor et Opii Pills	1000
Cherry Brandy	12 bottles.	Chloride of Lime	5 bbls.
Foreign Wine	10 gallons.	Flannel	15,500
Domestic Wine	87 gallons.	Letter Paper	15 reams
Cider	57 bottles.	Pencils (lead)	1116
Alcohol	216 bottles.	Penholders	157 dozen
Spirits	1 pail cases.	Pens	14 gross
Molasses	2 bbls.	Ink (bottles)	108
Extract Ginger	1128 bottles.	Stationary (assorted)	3 boxes
Bay Rum	200 do.	Palm Fans	420
Lemons	166 boxes.	Hay	20 bales
Lemon Syrup	363 bottles.	Straw	12 bales
Porter (in ½ barrels)	81 bbls.	Oats	400 bushels
Spices	95 lbs.	Safe (fire proof)	1
Tamarinds	135 gallons.	Camp stools	40
Tea	85 lbs.	Lumber (assorted)	large lot
Mutton Tallow	30 lbs.	Nails	2 kegs
Bedsteads	18	Spikes	10 lbs.
Bed Ticks	997	Shovels	24
Bales of Straw	11	Axes	6
Pillows	738	Hatchets	12
Pillow Cases	1346	Saws	2
Pillow Ticks	352	Hammers	3
Mattresses	115	Brooms	112
Chambers	264	Bandages	24 barrels
Candlesticks	248	Compresses	6 barrels
Cushions (large boxes)	5	Lint (home-made)	2 barrels
Ring Cushions	477	Patent Lint	50 lbs.
Sheets	510	Silk Ligature	2 lbs.
Blankets (woolen)	488	Cologne	196 bottles
Blankets (Rubber)	46	Camphor	
Quilts	393	Reading matter	11 boxes.
Head Rests	50	Newspapers	large bundles.
Stretchers	139	Arm Slings	714
Lanterns	100	Crutches (pairs)	1400
Medicine Cups	200	Canes	67
Scissors	48	Soap	224
Hair Combs	176	Tents	14
Mosketo Nets (pieces)	419	Candles	727 lbs.
Oil silk (pieces)	40	Pads	140
Oakum (for wounds)	2 bales	Sponges	2 bales.
Spit Cups	238	Sponges	2 boxes
Handkerchiefs	1500	Hammocks	25
Towels	3609	Matches (Gross)	144
Tin Cups	2339	Brooms	111
Tin Plates	1500	Hospital Lamps	100
Tin Basins	250	Camp Chests (large, with full assortment of every thing for field use on the instant)	7
Water Tanks (large)	8	Extra Harness, saddles, bridles, flags, razors, shaving brushes, marking pots etc. etc.	
Tin Spoons	51		
Tin Buckets	115		
Cooking Stoves	9		
Camp Kettles	8		
Knives and Forks	72		
Cheap Carvers	12		

Letter from Mr. Judd.—The noble Work that is being Done for our Sick and Wounded Soldiers.

WHITE HOUSE, Va., June 9th, 1864.

[The readers will please give the entire credit of the June and July numbers of the *Agriculturist* to my worthy Editorial Associates, Prof. Thurber, Col. Weld, Mr. Fitch and their assistants and correspondents. Five weeks ago to day, I left home to personally aid for a few days in the care of the wounded. The days have lengthened to weeks, and I can not yet consent to leave this important and interesting field of labor. I even grudge the brief time devoted to this hasty letter, for every moment I can be in the camp, gives opportunity to contribute something to the comfort of a suffering fellow. I may perhaps run home for a day or two, to attend to some important business, but with this exception, I feel it a [illegible] as well as the highest pleasure, to remain near the duty, [illegible] so long as hundreds of men are almost daily battle field[illegible] while so much can be done to alleviate struck down, an[illegible] the more *my* duty, as my health their sufferings. It is [illegible]standing the severity of the continues very good, notwi[illegible] of regular wholesome night and day labor, the absence meals, of beds, or of any of the comforts of home, or civilization even. I have so far felt none of the evil influences of these malarious regions which seriously affect so many others. I doubt not our readers will readily excuse me for present inattention to correspondence, to business, and to the reading columns.]

My notes last month to my Associates, which I see they took the liberty to print, left me at Fredericksburg. Since then we have been to Belle Plain again, to Aquia Creek, (May 22,) down the Potomac and up the Rappahannock to Port Royal (May 25,) and to Fredericksburg again (May 26) to bring away the last of the wounded; back to Port Royal, then down the Rappahannock and Chesapeake, up the York River and to this point (White House) on the Pamunkey river, where we arrived Monday, May 30. The work at these several points has been much the same, viz., the reception and care of wounded and sick sent to the rear from the battle field. At each place, and especially at Fredericksburg and here, we have heard the almost constant roar of cannons, sometimes in too rapid succession to admit of counting the distinct discharges of the heavier guns even, and we have almost learned to plan our work ahead for a given number of wounded, by the character and direction of the firing.

Of the character of our work, any one can judge, by thinking what would be done in a household where one of its members had been maimed by accident. How many attentions would be bestowed, how many comforts would be planned, how would the sympathies of the whole neighborhood be called forth, for miles around. Here we have thousands of maimed men, some of them pierced and torn in every conceivable manner—not one in a house, but often a score or more on the ground under a single large tent. When soldiers are disabled, they are sent to the rear where the surgeon performs such hasty dressing and other operations as may be most needed. As soon as circumstances allow, they are then sent to the "base of supplies" in ambulances (covered spring wagons), or often in springless army wagons. The guerrillas that hover around the rear, make it necessary to send a strong military guard along with each train of wounded, and also preclude the attendance of civilians to feed and care for the wounded while on the way. Such help only is given, as can be afforded by the drivers, and the soldiers detailed to attend them. The comparatively few Sanitary Commission wagons and "relief men," allowed at the front, do what they can for the men before they leave the field hospitals. It is these famished, weary, hungry, often tired and fainting men, that we are trying to receive and provide for to the utmost of our ability. And God be thanked for the noble enterprise of the U. S. Sanitary Commission, and for the patriotic hearts and hands that have supplied its treasury with the means for carrying abundant supplies to the points where needed. I have sent you a partial list of the "stores" brought to this point, which is but one of the fields of labor. I can not begin to describe the work done. My note books, and the broader pages of memory, would furnish details enough to fill a hundred columns in the *Agriculturist*. A few items must suffice.

At Belle Plain a large force of men, in alternate squads, were occupied night and day, from May 10 to May 25, in feeding the men with coffee, milk punch to the fainting, soft bread and crackers, medicines, and many delicacies—in giving clothing, crutches, arm slings, blankets, etc.—in dressing wounds, in cheering the desponding, in conversing with the dying, in writing letters for those unable to write for themselves, in receiving and forwarding letters, parcels, etc.—in short, in every way in which they could comfort the living—and in burying those who died when thus [illegible] on their way home. *The work done at that point alone, a thousand times repaid all the great and small Sanitary Fairs ever held, and all the home efforts ever put forth.*

At the same time, 32 four-horse wagons were engaged in hauling supplies to the army, and especially to Fredericksburg, where the same kind of work was going on, but on a still larger scale, if possible. Central distributing stores were established, and the city was districted off, and squads of "relief men" assigned to each district. (The agents of the Commission accompanying the army, are called the "Relief Corps," and those at the rear with the wounded, are termed the "Auxiliary Relief Corps." These latter consist partly of regularly employed men, who are previously trained to the work of dressing wounds, preparing food for the sick, etc., but more largely of *volunteers*, who give their time and best energies freely, but who work entirely subject to the regular "Auxiliary Relief Corps.")

These companies, with temporary captains to direct, went from house to house in their several beats, and commenced their good work. Though numbering over 150, there was at one time an average of nearly fifty for each one to look after. Those skilled in that branch, assisted in dressing wounds; others carried around and dispensed prepared foods, and drinks, etc., from the Sanitary stores. The memory of the hours and days occupied in this will never dim. That clean, nice flannel shirt, made perhaps by *your* hands, gentle reader, or at least bought with *your* money or work, and put in place of a blood or dirt soiled one, by the hand that writes this, perhaps comforted a son, or brother, or relative of the maker herself. I see a pair of bare feet of a noble man stretched upon the floor, unable to raise himself up; I hasten to put upon them a pair of home-knit socks. Who knit them? Perhaps the one that reads this. Somebody knit them for somebody's son—and that is enough. Never shall I forget one pair given. A mark on them indicated the knitter's name. The soldier took them in his hands, looked them over and over again—then kissed them, hugged them to his bosom, and turning upon his side, wept. I could not stay *there*, to ask what were his thoughts. These hands of mine are hallowed by the hundreds of pairs of socks, the shirts, the drawers, the arm slings, the crutches, the pillows, the ring cushions, the slippers, etc., etc., that they have been permitted to give to such men during five weeks past. And every hand that has helped to make these things, or helped by work, or dimes, or dollars, to buy them, is a nobler hand therefor. I wish I could give a thousandth part of the items. I have said nothing of the tens of thousands of cups of good coffee, prepared with pure milk brought condensed in cans, and sweetened with good sugar, of other thousands of cups of tea, of milk punch when stimulants were most needed, of farina, of beef or chicken broth, which modern invention enables us to carry fresh to the field. Imagine at least a hundred persons constantly preparing and bearing these things to our sick and wounded brave men, far from home and home comforts and care, and again with me thank God that it was put into the hearts of the people, to work in fairs and at home for our soldiers, and that you and I have been privileged to bear some part in this noblest enterprize of this or any other age. Let us keep on doing. We are in the midst of the mightiest struggle the world has ever seen. For 36 days an almost incessant battle has gone on, and the end is not yet.——But I must hasten.

At Port Royal, Va., the same work was repeated for three days and nights. The Sanitary Commission steamer, loaded down with stores and with "relief men," were on hand two hours before the first wounded man arrived, and we fed and cared for *all* who came in, until they were sent for from Washington, whither they were carried direct by water, in comfortable, commodious steamers.

At this point (White House) we arrived two days in advance of the wounded. You should see our eight distributing and feeding tents on shore, and the busy relief agents, cooking, hastening from tent to tent with pailfuls of the best nutriment, bundles of clothing, etc. Shall I speak of a single day's work of my own, in illustration? The men had for 36 days been away from their usual access to sutlers, or other sources of supply. I found a great eagerness for tobacco among those accustomed to use this narcotic; the longing seemed to be intensified by their condition. Yesterday I went around with a basket on each arm, and a haversack on my neck. A rough estimate of the day's work, from the morning and evening stock on hand, showed that I had given out writing paper and envelopes to about 700 men. Pencils to 90. A large lot of newspapers sent direct to me by Mr. Felt, of Salem, Mass. Crutches to 136 wounded below the knee, who were thus enabled to get up and move about. Arm slings to 115 wounded in the arm. (Perhaps *you* made one of these, reader). A piece of chewing tobacco each, to about 370. Smoking tobacco and matches to about 450, and pipes to 73 who had lost theirs. (A wounded man seldom brings anything from the field, except what is in his pockets.) This is the only day I have attempted to keep an account of the work done. With my outfit of baskets, etc., I looked like, and was not inappropriately dubbed a "Yankee Peddler." I doubt if any other Yankee Peddler ever did a better business in one day, or one that *paid* a thousandth part as well. The pleasant running conversation kept up all day was cheering, to myself at least, and the "God bless you's" and cheerful "good mornings" or "good evening's" responded from every tent as I left it, were *good* pay. Every where I met others of our "relief agents" bearing other things, or bending over the fallen men, dressing their wounds, and Samaritan like "pouring in oil and wine." The sleep of that night was sweetened by bearing out 36 nice warm new blankets to as many blanketless men whom I found, as I came from a distant part of the camping ground at a late hour in the evening. These men had been brought in after dark, and had got separated from the rest of their train. I am sure some of their lives were thus saved.—I speak thus particularly of my own work because I can speak of that best. Almost 200 others are earnestly and feelingly laboring to the utmost of their strength in the different departments. Such is the work at White House Landing to-day. May I not neglect the *Agriculturist* another month, if need be?

ORANGE JUDD.

An Excellent Bee Hive.

A patent bee hive is a nuisance, as a general thing, and farmers always dread the announcement of a visit from "the patent bee hive man."

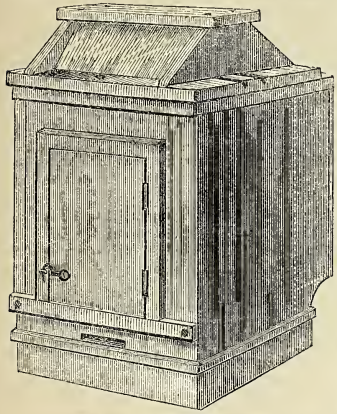


Fig. 1—MAINE STATE BEE HIVE.

We have had such a visit, and now lay the result of it before the readers of the *Agriculturist*; first, however, recounting some well known facts in regard to bees. Bees love to build in a hole about as large one way as another, so that in winter they may crowd together in a nearly round mass, and not have to go far for their food. They are well accommodated in a "square box," say 12 in. square and a foot high, and in the old-fashioned conical straw bee hives. The "breath" of the bees as it is called, like the breath of any animals, is highly charged with carbonic acid gas and vapor of *water*. In winter, unless the ventilation is good, this water is apt to freeze in the combs and shut off the bees from their stores of honey, and so they starve to death. It is desirable for the health and comfort of bees that the hive be ventilated in summer as well as in winter, that the bees may have fresh air, and that their "breath" may be carried off. When bees can not store all the honey they can make in the cavity occupied by the brood, and in which the queen and the greater part of the family always dwell, they will store it in some adjoining cavity, or even outside; hence it is customary to provide them with a main hive, no larger than experience indicates their wants will require, and to furnish surplus honey boxes easily accessible through openings from the main apartment, and which may be removed when full. Bees build their comb usually in sheets, which they will start if they can, from ridges or projections in the top of the hive. The great enemy of the hive is the bee moth; this deposits its eggs in the cracks or corners filled with comb scraps and dust which the bees trim off or which drop from brood comb. The eggs hatch into worms, which feed upon wax, at first living upon the scraps, afterward infesting the comb itself. The moth dislikes to trust herself within the hive unless the entrance is very wide—her motions are very active and her vision good, while the bee has an imperfect vision of near objects—so if the fly hole is wide, she can run in and out, while a narrow hole is easily guarded by the bees. The life of the worker bee is of short duration, so the queen mother is continually laying eggs to keep the number of the family good, and in spring she lays enough to overstock the hive usually, and therefore swarms are sent out. It requires considerable warmth as well as food to hatch the young bees, and so if the few bees that live through the winter have to be absent gathering honey and pollen all the time, there is a much less degree of heat kept up; therefore, it often pays to feed bees in their hives, for they will hatch more eggs and sooner increase in numbers.

The hive, engravings of which we here present, is called the "Maine State Bee-hive," and it is the invention of R. S. Torry, of Bangor. Fig. 1, is a perspective view of the hive. The main chamber (*A*) is a box 10¼x12¼ inches, inside measure on the base, and 15 inches high. The surplus honey boxes, 5 in all, are attached to the rear. They may be seen in fig. 2, (*B*,) and the entrances to them in fig. 3 (*O*). There is but one entrance or fly-hole, and that a small one, seen in fig. 1, and at *C*, in fig. 2, and to secure abundant ventilation, a wire gauze (*F*) is placed over a hole 6 inches square in the bottom board (*D*) the space beneath which (*E*) communicates freely with the open air. A pane of 8x10 glass is set in the front, covered by a shutter. There are 8 comb-bars (*G*) at the top of the main hive. These are half-round on the bottom, and to them the combs are attached. All but the two outside bars are dug out to form little troughs, into which honey or syrup may be poured when it is desirable to feed the bees. These bars are held in their places by strips a quarter of an inch thick, resting upon their ends; and the top (*K*) of the hive, which is perfectly flat, is screwed down over these, leaving a quarter of an inch space over the bars. In this top piece, flush with the underside of it, are two panes of glass, and in the space between the glasses 6 tin tubes (*M*) are inserted which dip down into the bottoms of the troughs in the comb-bars. These tubes contain slots at their lower ends sufficient

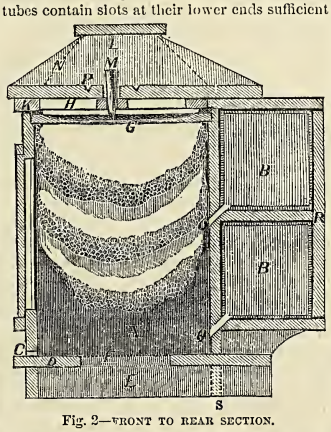


Fig. 2—FRONT TO REAR SECTION.

to allow a free ventilation, and through which also the syrup may be poured into the troughs.

The most remarkable feature of the hive is the condensing chamber, which is a cover to the whole. Its base is a flat board, seen in all the figures, and in this is a long slot through which the tubes project into a chamber (*L*). This chamber is enclosed by two end pieces and a top piece of wood, and two side pieces (*N*,) of glass, tin or zinc. It will be noticed that between the glass immediately over the comb-bars and the bottom board of the condenser, there is a dead air space (*H*) which prevents any chilling of the glass, consequently there is at this point no condensation of vapor from the breath of the hive. There is at all times a good draught up through the tubes, into the condenser, and out through the grooves, (*P*, fig. 2,) on each side, under the end pieces, seen also in fig. 1. In cold weather the glass or metal sides of the condenser present to the rising vapors cold surfaces whereon the moisture condenses. In freezing weather, ice forms, and when it thaws, the water flows off by the grooves (*P*). This will need watching to remove the ice and keep the grooves clear

When the hive is set up, the bottom board is cleaned off and fine salt is sprinkled on it just where the hive rests; it is good for the bees and the moth will not lay in it. When preparing the family for winter, the bottom piece, (*D*, *E*, *F*,)

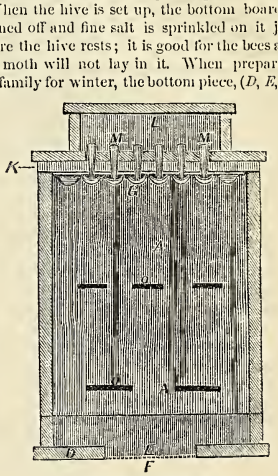


Fig. 3—CROSS SECTION.

is simply inverted, and the slip (*S*) put in. The effect of this is simply to lower the floor of the hive, the fly hole furnishing air enough for winter, and this bottom piece becomes a receiver of all the dirt and dead bees which accumulate during the cold season, and which otherwise would pile up more or less among the combs. In the spring the bottom piece is turned up again, after being cleaned the movable strip is taken out, and a shingle is laid under the wire netting to catch the dirt that drops through. In this dirt the moths lay their eggs, and here, the shingle being drawn out, the worms may be found and killed. It is not difficult to remove any one or all the combs if this is desired, by detatching the combs from their attachments on the sides by a bent wire, and lifting the bars.

We are particularly interested in this hive, because it combines so many thoughtful contrivances for the comfort and prosperity of the bee family, and is so very simple in all its parts

Tobacco Culture.

After the plants are set out and have got a good start, the tobacco planters' labors are none the less critical. The cut-worms have to be fought, giving no quarter, and the well enriched ground will bring forth weeds with astonishing rapidity. The more the ground is stirred the better, for thus not only are weeds destroyed, but an open porous surface is worth a great deal to the crop. A point not to be overlooked in this connection is, that the soil close to the plant and soon to be covered by the rapidly expanding leaves, be crumbled as well as that between the plants, otherwise the caked surface is likely to be hid by the bottom leaves, and so remain compact and impervious to air all summer.

Soon after the plants begin to grow well, small holes will be noticed in some of the leaves,

which, if let alone, will rapidly increase in size and number. They are caused by the tobacco worm (*Sphinx quinquemaculatus*) and if its ravages are not checked at once, there will be little left of the tobacco field. The eggs which produce the worms are inconspicuous, and usually the first that can be seen to indicate the presence of the rascals, are the little holes in the leaves. The small green worms might easily escape observation, they are so nearly the color of the leaf, hence they should be sought for in broad daylight, every leaf being turned up and examined, and the worms killed or bagged to be fed to the poultry. A flock of young turkeys are useful, and may safely be allowed the range of the field, if they will go no farther. The surest way to prevent the annoyance of the tobacco worms is to destroy the moths that lay the eggs; this is not very difficult. In common with many other *sphinges* or hawkmoths, the parent of the tobacco worm flies at night, or at least in the evening and morning twilight; by its proboscis, which is 6 inches in length, it is enabled to reach the sweets away down in the throats of many tubular flowers which other honey suckers can not get; such flowers therefore as are large, showy, and have long tubes, like the morning glory, evening primrose, and stramonium (described on p. 148, April No.,) are particularly attractive to them. If now we pick some of these flowers, particularly the stramonium, place a drop or two of poisoned honey or syrup in the throat of the flower, and put the flowers about both upon the plants where they grew and also in various parts of the field, the "hornblowers" will find them, and many will take their last repast. To poison the honey take a few grains of arsenious acid, called "white arsenic" by the druggists; pulverize it, and put it in a half-pint phial with some hot water, after a little while add two-thirds as much honey or syrup, and shake all well together; apply by using a glass tube or an ear syringe.

The hoeing of the tobacco should be done much like that of corn or potatoes, but more carefully, and more frequently, avoiding much hilling. Topping is to be done after the plants are pretty well grown, and the blossom stems shoot up above the mass of broad leaves—12 to 18 on each plant. At a certain point the leaves diminish rapidly in size, and here the topping should take place. No matter how early this be done; if the proper place can be seen, the mere button or leading bud, may be nipped off, or it will do but little harm to wait until many of the plants have shot up quite tall. This stopping the upward growth makes the leaves grow larger and of better quality. At the same time suckers will start from the buds at the bases of the leaves, which must be removed, as they withdraw strength from the leaf.

Pick off the Stones.

There is a prevalent notion founded on some interesting facts, that land is often damaged by the removal of stones, notwithstanding the fact that most land is greatly benefitted by the operation. There is no doubt of the fact that stones warmed by the sun, impart the heat to the soil after the sun is off, and essentially modify the temperature of the soil. They also furnish drainage in some measure; bedded in the soil, they prevent washing; by their decomposition they furnish slowly some elements of nutrition, especially during their exposure to the frosts and thaws of winter, and so in various ways they are of some considerable advantage to untilled land. Where, however, such land is brought under judicious culture, the stones removed, the soil deepened and drained if necessary, not only are they of no use, but they are of positive disadvantage, even though not large enough to interfere with culture in any way. The advantage gained from their removal may not be sufficient to warrant picking up stones of such a size that they are not in the way of the plow, hoe, or mowing machine; for where the roller is used in seeding, and upon mowings, all the small stones are cheaply and easily put out of the way, and the injury to the crop is not sufficient ordinarily to become a matter of calculation. Nevertheless they do occupy the place of just so much soil, and we argue therefore, they are better off the field altogether. When buried in masses, the soil over them if it be of a good loamy or clayey character, will show from afar as the best in the field, unless a very thorough system of drainage be pursued, which would make it all alike.

Sorghum—Make Syrup, not Sugar.

The very high prices at which all sugars, molasses, and syrup are sold, have given an impulse to the growth of the Sorghum Sugar-cane which it could hardly have received in any other way. Sorghum raisers should early plan to secure in their neighborhoods one of the best mills for expressing juice, and evaporators for concentrating and purifying it. From all we can learn it is not at all worth while to attempt the production of sugar. That which is produced has not a market value so high as the syrup which it will make, or which it would have made, if concentrated to the crystallizing point. The sugar is a gummy mass, some of which may be washed so as to leave crystals pretty much free from this sticky, cakey quality, fit, perhaps, to be used in the family, but not marketable. Let the effort of every syrup boiler be to produce a light colored sugarless article, of proper density, and free from any flavor. It is not advisable to have it too thick. At a temperature of 60° the syrup should flow like good molasses, and it is easy to judge of the density by putting a little dipped from the boiling pan into a tablespoon, or even letting it cool upon a stick after dipping it into the pan.

In purchasing cane mills, be sure that they are very strong, and of a larger capacity than will probably be needed. See that the journals of the rollers are large and strong, and the boxes strong, and both boxes and gearing easily oiled, without danger of greasing the face of the rolls, or the juice. The juice should be exposed to the air as little as possible before it reaches the boiling pan, and the process of condensation should be completed without interruption. There is a vast difference in the qualities of juice from various localities, as well as in that from different varieties of cane, or that grown under different circumstances, so much so that it is not likely that any set of rules can ever be laid down so that syrup of the same quality may be uniformly produced; certainly this can not be done at present. There is a notion quite prevalent among those who have had but little experience with making syrup, that no foreign substance should be added to purify it. Milk of lime neutralizes the acid, and if only just enough be used, the product is not likely to be darkened. By means of blood, skim-milk, or white of egg, many impurities are quickly removed. These substances are stirred (the blood and white of egg after being diluted with water) into the hot syrup, and rapidly coagulate, forming a heavy scum, entangling impurities, and enabling the operator thus to remove them when he takes off the scum. The use of albumen of milk, eggs, or blood, is only desirable in the case of very impure juice.

The impurities usually present are: 1st, a green scum which rises just before the juice reaches the boiling point, or when boiling begins, and this is very easily removed by skimming. 2d, are earthy deposits upon the pans, which collect in the form of a hard incrustation, doing little or no harm until it interferes with the evaporation. 3d, a sticky mass of slight cohesion when hot, but gummy when cold, which rises like cream on the surface, but which is difficult to skim off entirely. It has a disagreeable taste, and imparts it to the syrup, and is apt to adhere to the pan and scorch. It often remains suspended in the syrup and is long in settling. Points to be especially noticed in evaporating sorghum juice are: 1st, cleanliness. 2d, no delay in conveying the juice from the cane mill to the evaporating pan. 3d, the greatest possible celerity of evaporation. 4th, completeness of skimming.

We have never seen any records of the use of vacuum pans, such as are used for the concentration of beet and cane juice, for concentrating the sorghum juice, and at any rate the expense would deter most sorghum raisers from employing them. In evaporating in open pans, it is a prime necessity to be able to evaporate very quickly, hence, very shallow pans must be employed, and this gives but a slight depth for the impurities to rise through, and a better opportunity for the deposition of the earthy matter. Syrup quickly evaporated in shallow pans is always of better color and flavor than that "boiled down" in kettles, which indeed, is almost worthless. Of course, great care must be taken not to burn the syrup toward the last.

Making and Saving Manure—Night Soil.

Whoever cultivates any soil but the virgin loam of the West, or that which gets an annual deposit from some river, precluding the necessity of manure, should at all seasons plan with reference to increasing his stock of fertilizers, and preserving their valuable qualities. It is important to remember that all vegetable growth of not more than one year, readily decays, and if it decays under proper circumstances, contributes some value to the manure pile. All kinds of weeds, reeds, sedge, brush of one summers' growth will rapidly decay—and composted with dung, or thrown to be worked over by hogs, add greatly to the bulk and the value of the manure crop. The value of night soil collected about the city or village, is by no means so great as if the original materials were composted in a *fresh state*. The poudrette compost, therefore, made upon the farm, when care is taken to attend to it semi-weekly or even oftener if necessary, is worth a great deal more than that collected in the way described by our correspondent in the following letter, especially if we regard the number of persons contributing to the supply. "W. H. W.," writes to the *American Agriculturist* from Hartford Co., Conn.:

"As any information in regard to fertilizers is important to all cultivators of the soil, I propose to tell the readers of the *Agriculturist* how fertilizing materials are collected in the vicinity of Hartford, Conn. After making all the manure the stock ordinarily kept on the farm will produce, aided by composting with muck, peat,

etc.; we purchase from the livery stables, and from other parties, in the city or otherwhere, all that can be procured; paying from $5 to $10 for the amount produced by each horse, or about $5 per cord. It is then hauled, in many instances six to eight miles, besides paying a bridge toll of twenty-five cents, for a two-horse team over and back, if it is taken to the east side of the river. Such a team will haul half a cord at a load. This is thrown into the hog pen to be worked over with muck, etc. Many farmers during the winter and spring haul large quantities of night soil and compost it. Muck, peat, sods, or the like, are spread to the depth of one to two feet, over a surface as large as is desirable. The outer edges are raised about two feet by banking up with the same material that the bed is made of, and this embankment slants each way, being at least one foot wide on the top. The basin thus formed, is filled with the night soil as it comes from the vaults. This work is done during cold weather; after the frost is out, and it has dried down a little, they commence at one side of the bed and shovel over the whole, mixing it as thoroughly as possible. Stones, sticks, etc., are thrown out, and it is left somewhat piled together. In a few weeks it becomes fine and ready to use; fit to be spread and plowed in, or spread in the drill. A close watertight box, the length of a common ox wagon, and as high as it is wide, with a portion of the top fastened so as to be removed for loading, is what is used for collecting the night soil; this can be put on wheels or runners as desired. Some is carted ten miles in this way, the expense of hauling and loading during the night season, being the only cost. Of course any other good material added to the pile when it is being overhauled would add to its value; but here none is added usually, and it is seldom that any thing else is required even to bring very fair tobacco."

Summer Manuring Grass Lands.

The dogma that it is very injurious to manure to lie exposed to the sun, is doubtless well founded, and it so coincides with common sense that summer top-dressing of grass lands, with stall manure, is seldom practised. Nevertheless, the fact stands that fine manure, that which is well rotted, and so composted that it can be evenly spread, particularly that which is largely mixed with muck or sods, containing considerable earthy matter, applied immediately after mowing, is more efficacious than any other manuring. That this is so under all circumstances, and upon all soils, we will not assert, but we have yet to learn of well conducted experiments which fail to indicate this as the best time to apply such manure upon permanent meadows.

First, it is a mulch to the exposed roots and tender shoots, defending them from the scorching rays of the sun, preventing the drying of the surface of the ground, and retaining in itself the moisture of rains and dews. 2d., It furnishes at once stimulating food to the plant cut off in its prime, enabling it to recover quickly from the check it receives from the close cutting, which is fatal to many grasses. It is necessary for us to cut the grass just at that time of all others, when cutting does the plant the most injury, namely, when it has exerted all the strength of its nature in the production of flowers, and in the preparation for producing seed. A little later, when the seed is formed, many grasses begin to store in their roots material which they draw upon the following spring, and in which the vigor, and vitality even, of the plant is maintained through all the vicissitudes of the season. Timothy is a striking example of this. 3d., The manure, exposed as it is to moisture and warmth, rapidly decomposes. It is soon covered by the growing grass and contributes to its growth during the remainder of the season, and soon disappears from the surface altogether. 4th., It ordinarily induces a growth which warrants cutting a heavy aftermath, and sometimes a third cutting, without injury to the sward.

Valuable applications are, muck alone, fine and evenly spread; any good loam, particularly a heavy clay loam on a sandy soil, or sand on a clay loam, and either or both on a vegetable mold, like a reclaimed swamp; loam or muck composted with stall manure, or in the hog pen; fine stall or barn-yard manure in condition to be spread evenly and finally, almost any other manure, compost or commercial fertilizer which is worth what it costs.

Scabies or Scab in Sheep.

The following communication is from a gentleman who has devoted much time and attention to the means of exterminating parasitic insects upon sheep. In connection with many others we have long relied upon a decoction of tobacco in which the sheep should be dipped after shearing, as the best cure, and on the whole, as reliable and safe. We have, however, entire confidence in our correspondent's accuracy. He writes:

A few days since, while in conversation with some gentlemen, I stated that the "*Acarus scabies*," or "scab mite" of sheep, burrowed beneath the skin, and remained there about two weeks, depositing its eggs. The assertion in regard to the precise time the mite or its eggs remained under the skin, rather surprised those who heard it, and I was asked for my authority. Not being able to give it at the time, I promised to look it up and communicate it to the *Agriculturist*. The best treatise of the subject, that has come under my observation, is that of M. Walz, entitled "*De la Gale de Mouton*," published as far back as 1811. As I am not aware that this work has ever been published in full in English, and may consequently be difficult to find, I will cite an extract from it, in the "Edinburgh Veterinary Review," for 1861 (Vol. III, p. 236,) contained in a chapter on Veterinary jurisprudence, treating of the "annual let of grass lands."

"Acari," says M. Walz, "are minute insects, which form, feed upon, and propagate scab in sheep, and mange in horses. Though no larger than the hole made by the point of a fine pin, they burrow under the skin, irritate the flesh below it, and travel from place to place on the body, extending their devastations. If one or more female *Acari* are placed on the wool of a sound sheep, they quickly travel to the root of it, and bury themselves in the skin, the place at which they penetrate being scarcely visible, or only distinguished by a minute red spot. On the tenth or twelfth day a little swelling may be detected with the finger, and the skin changes its color, and has a greenish blue tint. The pustule is now rapidly formed, and about the sixteenth day breaks, and the mothers again appear, with their little ones attached to their feet and covered by a portion of the shell of the egg, from which they have just escaped. These little ones immediately set to work, penetrate the neighboring skin, and burying themselves beneath it, find their proper nourishment, and grow and propagate, until the animal has myriads of them to prey upon, and torment him; and it is not wonderful that he should speedily sink."

In the appendix to "Wilson on Skin Diseases," will be found a chapter on the habits of these insects, with the experiments of Dr. Gales of the St. Louis hospital, on the human system, strikingly corroborative of this statement of Walz. Dr. G. found that the time required for the full development of *scabies*, by the inoculation of a living *Acarus*, varied from four to fourteen days, according to the condition of the patient experimented on. I will refer any of your readers, who desire to pursue the subject more fully, to the works of Walz and Wilson, already quoted, as also to the "*Memoire comparatif sur l' histoire de l' Insecte de la Gale*," *par Raspail;* "Rayer on Diseases of the Skin," the works of Renucci, &c. In passing, I will claim for Walz the credit of having given a full history of these insects, with an accurate description of their appearance under the microscope, as early as 1810, while the existence of such an insect was denied by Galcotti, Biet, Chearugi, Rayer and other high authorities. And it was only in 1834 that their existence was proved before the Academy of Medicine of Paris by M. Renucci, a young Corsican.—Not the first Corsican, who overthrew previously established French authorities. In connection with these facts the attention of the readers of the *Agriculturist* may well be directed to *the unreliability of tobacco as a cure for scab.* To effect a cure, it is evident from the foregoing, that some preparation must be used, the effect of which will undoubtedly remain for about sixteen days. The first shower of rain completely destroys the strength of any preparation of tobacco; and consequently, all its power for good, as well as its power for harm of necessity ceases.

Years ago I conceived the idea that astringent preparations like extracts of Tobacco, Ivy and the like, which have the effect of destroying parasitic life, also close the pores of the skin, and for a time retard and injure the growth and general health of the animal itself. This I subsequently proved by investigations accompanied by microscopic examination of the skin of sheep dipped in an extract of Tobacco, a report of which was published in the Mark Lane Express. Yours respectfully, ——.

It is some time since our attention was first directed to the positive injury tobacco might be, and probably is, to sheep and to the growth of wool. And we have repeatedly mentioned the use of arsenic, and of mercurial ointment, by good shepherds in Europe, in preference to tobacco. The statements above confirm the opinion that tobacco is not so efficacious in destroying parasites as is usually supposed. The price of the article now is of itself an argument in favor of some at least equally efficacious substitute. We took occasion some time since, to say a word in favor of a sheep dipping composition advertised by the Brothers Lalor, and in this connection add that the testimony of extensive sheep raisers in favor of its judicious use is very satisfactory.

How to Bring up and Keep up Land.

He who believes in manuring his land with a pocketful of some patent fertilizer, must expect to reap crops of corresponding size. The old-fashioned dung-heap must be our main reliance. And here, economy must save, and industry must gather up all possible elements of fertility. The manure cellar and yard should be provided with absorbents for saving the liquids

which are so valuable and so apt to run to waste. Here will be brought large stores of muck, sods, dry pond mud, saw-dust, leaves, weeds, corn-stalks, straw, tan-bark—indeed any thing which is dry enough to absorb liquids and gases, and which will before long decompose. All these common sources of fertility have been tried and found sufficient by the most successful farmers.

Gapes in Chickens.

Several items have appeared in "Our Basket" within a few months past with reference to what is called "Gapes." The diseases of poultry are so imperfectly understood that we have no doubt the writers of the items referred to have in mind two or perhaps three distinct diseases which are accompanied by gaping. Certain forms of catarrh, pips, etc., which make tickling in the windpipe, cause chickens to gape, and some of the remedies and preventives we have published refer to these diseases. The gapes proper are caused by small parasitic worms in the bronchus or windpipe. The following communication from Chas. F. Morton, of Orange Co., N. Y., to the *American Agriculturist* is valuable as the result of 20 years experience, and the views of an intelligent observer:

Fig. 1.

"This disease is somewhat similar to the botts in horses. The bott fly deposits its eggs on the hairs of the horse's sides and legs; they hatch; the worms are licked off and swallowed, and attach themselves to the mucous membrane of the stomach, where they get their growth, and are finally voided in the spring. The grub goes into the ground, undergoes its changes, and comes out a perfect fly, to pair, and in the same way, to perpetuate its species. The Gape fly deposits its eggs in the nostrils of the chicks; here they hatch and the worms work their way to the windpipe, where they often exist in large numbers It is obvious that no preparation of the food will prevent this. I know of no better preventive than keeping the coops, chicken house and places where the fowls roost, well cleaned and whitewashed, salt or brine being mixed with the lime, for old, dirty fowl houses and coops are particularly liable to perpetuate the disease. When goslings, turkies, pea-fowl or chickens have the gapes, catch them, roll them up one at a time in a cloth with their heads out. Hold one between the knees; with the thumb and fore-finger of the left hand open the mouth; get an assistant to take hold of the tongue and hold it fast; then gently push down the throat a feather tip, trimmed in this shape (see fig. 1.), and larger or smaller according to the size of the chicken. The feather is gently pushed down until it stops, where the branches of the bronchus go off to each lobe of the lungs. Then it is turned round as it is pulled out. The worms will either be brought out or so loosened that they may be coughed out. If not all expelled, repeat the operation. Sometimes I have operated several days after, and found a worm or two in the bronchus. Last summer I operated on upwards of a hundred fowls, and did not lose one. In some cases I took as many as 30 worms out of one chicken not over a week old, and some of the worms were not over an eighth of an inch long. I have never known young ducks to have the gapes."——Mr. Morton prefers the feather to the snell-gut loop attached to a thin piece of whalebone as recommended by Mr. Sharpless, May No., page 135.—A correspondent "X," of Baltimore Co., Md., describes the gape worm as from half an inch to an inch long, reddish, and attached by a hook or "prong" to the membrane of the windpipe. In this, it is like the bott or grub of the gadfly, above noticed. A young lady whose love for her pets overcomes the feeling of squeamishness which afflicts many of her sex, extracts these worms by means of a feather tip like fig. 2. The plume is trimmed off to near the tip, and then, being wet, the remaining part is laid back as in the engraving. This is easily done by drawing the nail down over it. One operation, which ought not to be accompanied by more than two or three insertions of the feather, is usually a cure. X adds, the chicks should not run in wet grass, but be kept on bare or plowed ground.

Fig. 2.

W. R. Monroe, of Bay Co., Mich., says, a small piece of asafœtida, as big as a pea, will cure the chick, and a little constantly in the water, will be a sure preventive.—John M. Becker, Stephenson Co., Ill., traces the disease to the fact, that year after year fowls are bred upon the same ground. He secures freedom from it by putting his coops of young birds every year in a new place, thus avoiding the filth and parasites and seeds of disease, which may have been cast off the year before.

Hints About Dwelling Houses.

F. A. Goodwin, Mt. Salubria, Ind., communicates to the *Agriculturist* some hints and criticisms about cheap houses, which may be well read in connection with the article on page 105 (April). He sends two plans, the first of which is a modification of plan No. 1, in the article above alluded to, and as it is no improvement upon it except in regard to calculating rooms for carpeting and the addition of a back kitchen, we do not illustrate it by an engraving, but engrave his second plan (Figs. 1, and 2.)

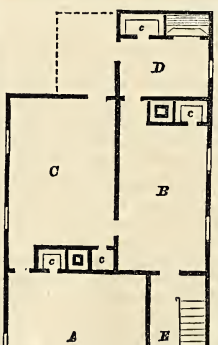


Fig. 1. GROUND PLAN 22x33 (L 9x9.)

References.—*A*, Parlor, 15x15; *C*, Family room, 12x15; *B*, Dining room or bedroom, 9x15; *D*, Kitchen, 9x9, with sink and cupboard, *c*; *E*, Front entry; *c*, *c*, *c*, Closets, 2 feet deep.

Mr. G. writes: "The attention of the agriculturist is directed to nothing more important than the building of cheap and comfortable houses. Wealthy men, living in cities, can find professional architects to make designs which are generally elaborate and expensive, but few house-builders devote their time to planning cheap houses for the rural districts; hence a man who has not experience, is left to blunder along with the aid of an uninformed carpenter, and make a blundering house; perhaps altering his plans half a dozen times as he proceeds. "Jack Plane," will allow me to say that there are serious objections always to a story-and-a-half house. Mr. Woodville's plans (page 105 April No.) have one notable defect which it is strange, house-builders so often make. Almost every body in this country who is able to build a house, expects to put carpet on the floor, and carpets are made a yard wide, and nine-tenths of the patterns are figured so as to require cutting by the yard to make them match, hence there is more or less waste in carpeting every room or hall which is not the exact multiple of a yard. If house-builders would only bear this in mind it would save the housewives a great deal of trouble and husbands a great deal of expense, yet not one room or hall in either of those plans can be carpeted without a provoking loss in cutting carpets. If a room *must* go beyond 12 or 15 or 18 feet, and can not reach the next multiple above it, make it half a yard. A great variety of carpets can be cut by the half yard, but none can be cut 14 or 16 feet without loss.

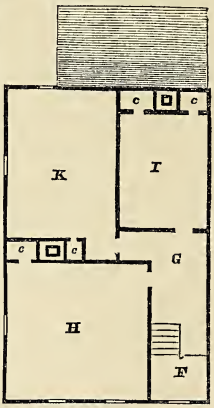


Fig. 2. PLAN OF CHAMBER FLOOR.

References.—*F*, Rest-Landing over front door. 6x5; *G*, Upper "Hall;" *H*, Bedroom, 15x15; *I*, Bedroom, 9x12; *K*, Bedroom, 12x15; *c*,*c*,*c*, Closets.

I send you two plans. They each recognize the fact stated by Mr. Woodville, that two-story houses, and square houses are cheapest. The first is a modification of his No. 1, requiring the same external appearance. It differs in adapting rooms and halls to the carpet question. 22½ inches is the right size for flues (2 bricks and a half.) This plan, with closets two feet deep, allows room to plaster over the flues, without plastering upon them; and the connection from the stove to the flue can be made much more secure from fire, by having but an inch or two of space to the flue, than on the plan he proposes, of two feet useless space. Closets two feet deep will do better than six feet, where there are so many as his plan or mine proposes.

In each plan here presented I start the stairs about three feet from the back hall door. This is not usual, and many will say, "How will it look." I answer, these plans are for utility and cheapness, not for looks chiefly. A family wants to go from the dining room and family room up stairs ten, probably twenty times, to once from the front door—; hence it is more convenient, and will save hundreds of steps to the women, for which they will thank you. Besides this, a hall only 15 ft. deep is too short to allow stairs to rise ten feet, without being either too steep or without a rest and turn. To start from the

front door and turn, you land in front and can have no access to the back without making your upper hall wide, or going through some other room. This plan gives a rest platform over the front door, and lands where you can reach each room without passing through another.

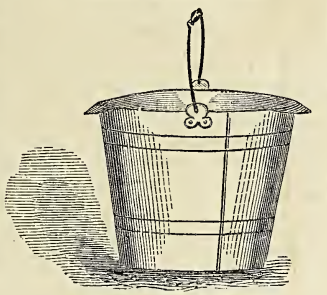
Mr. Woodville's plan No. 2, for a cheaper house, is objectionable chiefly in this; that it makes no provision for enlarging at a future time. In this country the means to build with, and the demand for more room are apt to increase in time as children grow older. A young man can hardly afford to build now for his family, as it will probably be 20 years hence, therefore there should be a cheap plan for the present, which will allow additions in the future. My second plan (see fig. 1,) is of this kind. Let the eaves front the street, and a parlor and additional bedroom can be added hereafter without marring the plan of the present house, making it in the form of an L. This will require a hip roof in the present building.

"Each of these plans contemplates a lean-to kitchen, and a back porch. I have known many a house built without these appendages, but they had to come at last. Better leave some part unfinished, and build these at once if you can not finish both. Architects and other men may say "no," but the women will have them.

"By a very simple and cheap contrivance the unpleasant odor rising from the cooking stove, can be sent out at the flue. It consists of a sheet iron hood, say five feet in diameter, terminating in a neck to receive a six inch stove pipe from which by an elbow and another joint, connection is made with the flue between the ceiling of the kitchen and the roof. The whole need not cost five dollars. It should not project below the ceiling, but be plastered flush with it. If the pipe or flue rise perpendicularly from it, and be covered, it may go out through the roof as well as not."

The "Veronica Quinquefolia" once more.

In the September *Agriculturist* of last year, this was classed among the humbugs of the day, and we stated, upon evidence which would convince any intelligent jury, that this was the old *Veronica Virginica*, sold under a new name, and at an enormous price. Plants of the so-called *Veronica quinquefolia* were sent by W. R. Prince, the person engaged in selling it, to the Rural New-Yorker, which paper gave a description of it, and made out that it was not a Veronica at all. Here was an evident "change of base," and we quietly awaited further developments. Since then, a friend procured for us from W. R. Prince, some dried specimens of his so-called *Veronica quinquefolia*, labeled with his own hand. Although the specimens sent were out of flower, they were readily recognized as belonging to an old garden plant of European origin, formerly called *Lysimachia verticillata*, but which is now considered only a variety of *L. punctata*. The specimens came directly from Prince to us, and agree entirely with the description of the plant given in the Rural New-Yorker. The case sums up thus: Prince claims to have a new American plant, which grew on Long Island, but was very rare, and was sold at a high price as a wonderful remedy, and to which he has given the name of *Veronica quinquefolia*. Authentic specimens of this pretended new plant, prove to be an old ornamental garden plant, and not a native of America at all, which is not a *Veronica* nor at all related to it, and one which is not known to have any medicinal properties. These are the facts in the case; our readers can make their own comments. It may be well to state in connection with this case that neither threats of law-suits, nor those of personal violence, will deter us from exposing humbugs, no matter by whom they are fathered or sustained.



A Convenient Milk Pail.

Any thing which adds to the safety of the milk pails all over the land, and to the convenience of milkers, is very valuable, and the simple contrivance we here present, the invention of a subscriber to the *American Agriculturist*, Peter Mulvany, of Calhoun Co., Mich., seems to be of this kind. Mr. Mulvany writes: "While getting a milk pail of heavy tin marked at the tinsmith's the other day, it occurred to me that it would be held more easily between the knees if it had two pieces of tin soldered on, one on each side between the pail ears, as in the sketch. I find it to be a decided improvement. The pieces need not be large, say an inch and a quarter in width, and half moon shaped, to fit the curve of the pail, and so as to slope downward a little." It strikes us as decidedly practical, and so to speak, *handy*. The pail being supported upon the knees instead of being held up by them, is brought conveniently near the teats, and is much quicker in hand, if the cow steps or kicks. It would be interesting to know approximately the quantity of milk spilt every year, or even on any one day in the milk season, by the upsetting of the pails, by cows putting their feet into the pails, tipping them partly over, or causing splashing and loss of milk, while the operation of milking is going on, which accidents this contrivance is calculated to diminish. At the same time it affords relief to the muscles of the legs of the milkers.

Where Ought the Farm-house to Stand?

The usual sites of farm houses depend very much upon the custom of the community in which the farms lie. In New England where the country was first settled, and the villages laid out, the principal streets were located where good farms could be had on each side, and there the farms were allotted to the settlers. Each farm had a narrow frontage of 300 or 400 yards on the street, and ran back at right angles to the road half a mile or a mile. The houses and buildings were located close to the road for the sake of sociability and convenience, at a time when nearness of neighbors was not only agreeable but important to personal safety.

These long narrow farms obtained in many sections besides New England, but among the Dutch settlers the farms were laid out much more compactly, so that even though the houses were located nearer the highways they were much nearer the centre of the farms. The present mode of settling new land at the West is influenced almost entirely by Government surveys, and the tendency is to form farms of one or more quarter sections, hence they are all rectangular and most of them square. High ways proper can hardly be said to have any existence over large portions of the Western States, particularly upon the prairies, even where the country is pretty well settled. So the houses are located without reference to roads. So far as the farm is concerned, this is well.

In laying out a new farm or in building a new farm house and locating barns and other buildings, it is most important to study convenience and not follow old customs. The nearer the house and buildings are to the centre of the arable portion of the farm, the better, other things being equal. Hills, streams, the location of rough or untillable land dividing that which can be brought under the plow or scythe, and sundry other circumstances will lead to a location of the buildings away from the centre of the farm. It is curious to see how the notion that extended views are desirable, or some other notion, has influenced the location of houses and barns upon hill tops, all over the country where it has been possible. Every load of hay, grain or roots, must in many cases be drawn up the hill. The fertility of the farm by every rain is washed further and further away from the house, so that even if it be all caught at the foot of the hill, the result is that the farther off a crop grows, the heavier it is likely to be.

The building ought to stand where the farm roads and cart paths can conveniently concentrate and all approach by reasonably short and direct lines from the out-lying fields. Steep pitches should be avoided even by making circuits, and the steepest places in the roads should be where loads will seldom be hauled up them. The heaviest loads of produce come from those fields upon which the most manure is hauled, so the buildings should be nearly on a level with the best land, or that which is most susceptible of high manuring and culture. Proximity to the highway is a great convenience, hence those farms are favored which are intersected by a public road. Where there is much travel, this having a constant troop of strangers and pilferers passing through one's grounds would be any thing but desirable; but where the travelers would be chiefly neighbors and friends the case is reversed. In districts where strong fences must be maintained along the highways to prevent the trespassing of neighbors' cattle, preference may be given to such a location of the farm with reference to highways as will require least fencing.

In regard to views. The extensive panoramas obtained from hill-tops are not by any means so beautiful and pleasing to cultivated taste as the more limited landscapes, combining striking features both near and far, which are much more likely to be found at less exalted and more protected situations. A southern, southeastern, or east-south and-west exposure, protected from northern and north-western winds by hills or forests is to be chosen, and extensive views of the grounds of others are to be regarded entirely subordinate to the ability conveniently to overlook one's own farm and laborers.

Dr. Evan Pugh.—The cause of Agricultural Science in this country sustains a very grave loss in the death of Dr. Evan Pugh, President of the Pennsylvania Agricultural College, which occurred at Bellefont, near the college domain

on the 30th of April. Dr. Pugh's studies were pursued under the most distinguished chemists and agriculturists of Germany and Great Britain. As a chemist, his attainments were high, and his investigations of great value. When he returned to this country he heartily espoused the cause of agricultural education, and was soon burdened with the responsibilities of President of the newly projected Agricultural College, and they could not have rested on better shoulders. In spite of persistent opposition, of discouragements and perplexities, not single handed, but bearing the brunt of the labor, he was successful, finally, in placing the institution upon a permanent and liberal basis, and in a most excellent position before the public, seeing it numerously attended, and daily growing in favor and influence. He is taken away just as a full fruition seemed ready to crown his labors.

Woman's Labor in the Field.

In this country it has been a rare sight to see women engaged in field labor, except at the South, where woman's labor has been highly appreciated, especially for certain kinds of work. The present scarcity of laborers leads many to employ women in field labors. During the month of June thousands have found profitable employment in weeding carrots and mangels, setting out cabbages, tobacco, etc., lending a hand in the hay field, and perhaps in the corn and potato fields too. They are paid 50 to 80 cents a day, and we have no doubt they earn it well. At least their employers are entirely satisfied. We should be very sorry to see the women of America subjected to the cruel drudgery of the women of Europe, yet no one can look upon this out-of-door labor, if not of a character to overtax their strength, as likely to work any thing but good to those who participate in it.

Hundreds of farmers boys, ambitious to do "the work of a man," and encouraged in it by their parents long before they have man's strength and endurance, have been stunted for life, dwarfed, or drawn out of shape, and still remained healthy and strong, while others have contracted disease, lessening their ability, and shortening their lives. Of course females are quite as likely as males to injure themselves in the same way. American women, and women folks of the farm not less than others, are proverbially "delicate," nervous and weak. Could the ruddy and brown complexions gained in the field, become fashionable, and the "interesting" pale-faces of the darkened parlor find themselves decidedly in the shade, the next generation would have an additional reason to be grateful to this, and to these cruel war times.

Turnips.

We have never paid the attention to different varieties of this root which it deserves and receives abroad. The reason may be that in the northern States where their culture has been most extended, and where we find the most careful culture in all respects, we can not feed them off upon the ground, as is the custom in England, where most varieties are allowed to occupy the ground until thus consumed. The varieties most generally cultivated, and perhaps the best, all things considered, are the Purple-top Strap-leaf, which is flat, and the Cow-horn, (Vertus' Long-white,) which is a long root, standing a good deal out of the ground; both are favorite field varieties, the latter seldom seen in New-York market. The Yellow-stone and Golden-ball are each excellent and handsome, and the Swedes (rutabagas) are all valuable, even if sowed rather late, though, of course, these ought to have a long season. For table use in winter and spring, yellow or white rutabagas sowed in July are preferable to those put in in June, if they grow quickly, for they are less rank, and more marrowy.

The last week in July is usually the time chosen for sowing turnips. (Swedish turnips may be sowed any time after the middle of June.) The best rule in regard to quantity of seed is to sow as *little* as you can, a pound and a half to the acre is an abundance. Drilled 18 inches apart they do better than if sowed broadcast, though this is the usual method with common turnips. If the sowing be delayed until August, even late in the month, and severe weather holds off until the 25th of November, —"Thanksgiving time" in New England—a good return may be expected. Turnips do their growing and filling out, in cool weather after frost, and are only injured by such freezing as entirely cuts down their leaves and freezes the ground hard. The best returns are gained from rutabagas sowed about the middle of June, the drills being put far enough apart to give the cultivator room to go between the rows. Sowed late there are fewer weeds, the roots do not grow so large nor require so much room, and so the drills may be much nearer.

Keep up the Flow of Milk in Drouths.

A drouth in summer, scorching the pastures, drying the streams, parching the land far and near, is a great calamity, and none feels it quicker than the dairyman. The provident farmers have made provision for any such occurrence, by putting in corn or sorghum, or other green fodder crops, which will afford an abundance of excellent forage for a long time, and if not thus used, will furnish dry fodder for winter feeding. Corn, if only well cured, is second in value only to good meadow hay of mixed grasses. Whereever it is possible, the practice of "taking up" the cows every night, stalling or yarding them and feeding green fodder, or an equivalent, is advisable. A little oil cake meal, or cotton-seed-cake meal, or Indian meal fed daily at this time makes itself very profitably felt in the milk pail, or in the butter tub.

As soon, at any rate, as the least undue diminution in the quantity of milk is noticed, and accurate observations ought to be made daily, measures ought at once to be taken to keep up the flow. Farmers are so much in the habit of letting cows fall off in milk during the summer's drouth, that unless they almost dry up, many would regard it as only the natural course of things. If, however, they have constantly full feed during the first 4 or 5 months after calving, the falling off should be very small. If the cows can not well be stalled, nor put into loose boxes in sheds or barns, they may, at least, very easily be yarded. It is best to put a large herd in several small, sheltered, dry yards, those agreeing best or of about equal strength being put together. When the one or two fighters or "bullies" of a herd are taken out for a night, the rest will be quiet enough, and a decidedly better return for the feed may be expected. The yards ought to have fodder racks, so that the feed will not be wasted. The amount of feed to be provided for the cows, and the time to take them up will depend very much upon the condition of the pastures. They ought to be turned out very early so that they may fill themselves, if they can, before the heat of the day, or else they should have a feed before they leave the yard. With the return of rains and a good growth of grass, if it is desirable, the feeding at home may be discontinued. By this practice a much better flow of milk will be secured for the autumn and winter.

Grass—How to Avoid Sowing Foul Seed.

It will never do for us to complain of thistles, docks and daisies, so long as we persist in sowing foul seed. Not a few of the grass-fields of our acquaintance were made by sowing them from the deposits of the hay-mow. In this there are two errors. First, such seed is much of it only half ripe, the grass being cut when in bloom, and being therefore unfit for seed. And secondly, the hay of a majority of our meadows has such a mixture of weeds, that those seeds which are ripe are too foul to spread again on our lands. "For whatsoever a man soweth, that shall he also reap." Then, again, many of our meadows are injured by sowing them with poor seed bought at the stores. It is of great importance to buy seed only of responsible dealers, and to know that they purchased it of responsible farmers. In purchasing seed it is well to examine it carefully with a magnifying glass, no matter of whom it is bought. A better security than any other is for each farmer to raise his own seed, and see to it that it is perfectly clean. This is easily done as respects Timothy, Red top, June Grass, Orchard Grass, Red and White clover. Sow carefully selected seed, and keep the ground clean, let it ripen the second year. Then cradle and bind in small bundles as soon as wilted. Set them on end for a few days, and thresh as soon as they are dry enough to avoid waste by shelling. As soon as one gets a reputation for the purity of his grass seed, his neighbors or the dealers will gladly buy all he has to spare, at a very remunerative rate.

Buckwheat—Cultivation for the Grain.

The cultivation of this crop has, perhaps, been too extensive in some parts of this country, leading as it does to carelessness of keeping up the soil to a good state of fertility. Buckwheat does not require a rich soil, and fresh manure makes the crop so run to foliage that the grain does not fill well. The production of plump, heavy seed is attained when the ripening takes place late in the season; the cool nights and warm short days of autumn seem particularly favorable. It is therefore a question for farmers to settle experimentally, how late they can sow and not have the crops caught by early frosts. From the middle to the last of July, is the favorite period, farmers preferring to run a little risk of September frosts rather than not get plump grain.

It grows well on light soils and a small dressing of good superphosphate, or bone dust, will secure a crop without serious exhaustion of the land. Leached ashes and bone dust, any quantity of the former, and 3 to 5 bushels of the bones to the acre is a good application; a light dressing of Peruvian guano or Castor Pomace, tells wonderfully. The quantity of seed to the acre varies with the character of the soil. Two pecks, small as the quantity may appear, will cover the acre with a dense growth, even to the shading and overpowering of most rampant weeds, if the soil be tolerably strong, and 4 to 6 pecks are often used on poor soils. The quick

and rampant growth of the plant, especially if encouraged by nitrogenous manures, like guano, makes it one of the most valuable plants for green manuring. There are few soils upon which a dressing of 1 or 2 cwt. of guano will not enable the farmer to turn under at least 5 or 6 tons of green manure per acre.

The crop is cut when the ripest seeds are fully ripe, many of the rest, being in all stages from the blossom to the "dough," will ripen after cutting. It is bound in small bundles which are left in the field until it is ready to thresh. When moved, the loss from shelling is often considerable; hence it is well to line the bottom of the cart or wagon with hay caps or other cloths. The successive ripening of the seeds of this plant renders it almost impossible to prevent many of them becoming scattered on the ground, and these will come up the next year, but seldom make any further trouble. This is a nuisance however. Corn rarely does well after this crop, though it follows a crop of buckwheat turned in for manure well enough. A very poor soil may be well prepared for rye by turning in a crop of buckwheat sowed almost any time in this month; and this may be followed up year after year by the addition of only manure enough to give the buckwheat a vigorous start. The value of the grain for feed is universally recognized, especially ground in connection with corn or oats. That it tends to produce cutaneous diseases we do not believe, though there seems to be some ground for eschewing the straw as bedding for hogs. A better application of it is as feed for sheep, which do very well upon it. The straw is apt to heat if packed close and in large masses.

Lice on Cattle.

During the spring distressing reports came from the West, that farmers, having tried to carry through too many cattle on frosted corn and prairie hay, come spring, found their herds, starved, weak, miserable, and more *alive* with vermin than genuine vitality, which indeed was at so low an ebb, that many succumbed, before they could take advantage of the springing grass. The sure cure for lice upon neat cattle is mercurial ointment ("Anguentum" as often called at the West). The application is external, but if the cattle can lick it off it will cure them forever of "all the ills that flesh is heir to." It should be mixed with four or five times its bulk of lard, and then, a small quantity applied in the hollow behind the horns, by the hand, and well rubbed in along the back. After this the curry-comb or card should be faithfully used. The vermin will soon feel the effects of the mercury, and though at first manifesting more life, soon become dull and are brushed off by the card. The carding ought not to be so severe as to irritate the skin, but it should be done as often as three times a week. Cattle thus treated will not be troubled with lice long. There may be some risk of animals licking one another, though we have never experienced nor heard of bad results from this cause. The mercury seems to disseminate its influence over the entire body of the animal, though the application be made in only one place; this is increased by the card, curry-comb or brush. There is great danger if too much be used, and particularly if it be left in lumps and not thoroughly rubbed into the skin. A mass, after mixing with lard, as large as a hickory nut is as much as it is best to use for one application on calves, —twice as much for full grown animals.

A Succession of Vegetables.

There are many who make a job of planting the garden in the spring and content themselves with the different vegetables as they come along, without taking any pains to have them any earlier or later than a single out of door sowing will furnish. Those who manage their garden in this way do not get half the enjoyment it is capable of yielding. It is too late now to think about getting extra early crops, but it is just the time to do something to get late ones of many things which last but a short time in perfection. Though most of our readers do not enjoy the climate of California, which allows choice vegetables to grow nine or ten months in the year, they can by means of hot-beds and late planting do much toward lengthening the season at both ends. Early Valentine and other snap beans, and any of the early sorts of sweet corn, planted now will give in all ordinary seasons a plentiful supply until frost comes. Early peas, if planted quite deep, will often do well and give a late yield. Cucumbers, radishes, lettuce, spinach, and many other things may be put in as a succession crop, and even okra and nasturtiums will probably pay for the trouble.

Patriotic Gardening.

In these times when our hospitals are filled with wounded heroes, the question with every one is, what can I do for the soldiers? There are few gardens so small that they will not afford something which will be acceptable to the boys who are sick or wounded. They long for home comforts, and a thing tastes all the better if it is "just as mother used to make it." It is not too late to plant a few hills of cucumbers to furnish material for good home-made pickles, which shall gladden the heart of some mother's son. Then there is dried sweet corn—which is a greatly prized luxury, and canned or bottled tomatoes, and tomato catsup which are also highly welcome. The fruit garden and orchard will yield their dried and preserved fruits, and every home to which the *Agriculturist* goes can do something for the comfort of the soldiers. The nearest town or village has its soldier's Aid Society or Relief Association which will gladly receive contributions, and forward them where they will do good.

Manuring Newly Set Trees.

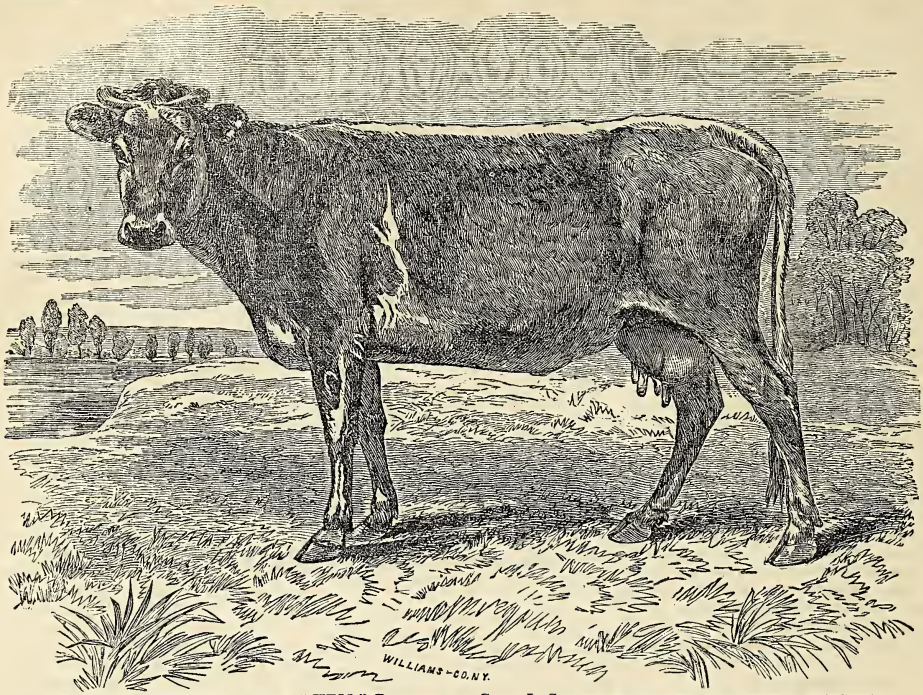
We this spring saw a neighbor finishing off the planting of a row of handsome maples in front of his dwelling, and complimented him on his taste and public spirit, and expressed the hope that his trees would live and flourish. "They *ought* to grow, said he, "for I have put a half wheel-barrow load of hog manure into each hole." "Have you?" we responded, "then the trees will die, and you may as well pull them up now and throw them on the brush heap." But he could not be convinced of his error. "Hog dung done well in the corn-field, and with hops, and tobacco; and why won't it with shade trees?" And so he left his handsome maples, with their roots enveloped in the powerful manure, and the result was as might have been expected. A few leaves put forth in May, but in June they turned yellow and dropped off one by one, and to-day the trees are dead. The lesson is a plain one: keep away manure from newly planted trees. Give the roots finely pulverized surface soil, as good as can be found, and the trees will doubtless thrive. If the soil need bettering afterward, apply manure to the surface in the fall, and work it in the next spring. It's effects will soon be visible.

A Few Words on Pruning.

The often repeated axiom "prune whenever your knife is sharp," holds good for small limbs upon small trees, but for old and neglected ones both experience and theory indicate midsummer as the proper time for the removal of large limbs. Not only is the amputated stump more thoroughly shaded at that time, but the forces of the tree are in that condition which allows the healing over process to commence more promptly than at any other season. We have to repeat what has often been said in these columns: do not cut a limb unless with a definite object and it is clearly seen that something is to be gained by it. In pruning we remove limbs altogether or shorten them, and for quite different ends. A neglected tree will have its center crowded with branches which, being excluded from light, cannot perfect their fruit. Others will cross and chafe one another, while others again will grow so much to one side as to throw the tree quite out of balance. In either case the limb may be removed with decided benefit to the tree. Nor is the manner of its removal a matter of indifference; if worth doing at all it is worth doing well. A pruning saw or a small hand-saw without a back, and with a rather wide set is to be used to remove the limbs. In the operation the limb should be held in such a manner that it cannot fall by its own weight and make a bad crack, or strip the bark before the sawing is completed. Saw close to where the limb joins another and pare the cut surface smooth with a knife, chisel or drawing knife. The surface should then have some protecting coating; a thick solution of shellac in alcohol is one of the best preparations for this purpose, but owing to the high price of both these articles it will be found cheaper to use grafting wax, which may be applied in a melted state with a brush. Either of the compositions mentioned in the report of the Fruit Growers' Meeting on page 164 (last month) may be used. Branches may be shortened in, either to induce the formation of fruit buds or to cause some of its lower buds to start and produce branches to fill up a vacant space. For the last mentioned purpose the cutting is done in spring.

World's Fair in New-Zealand.

In our younger days we read of the island of New-Zealand with mingled curiosity and fear, as we were told of its ferocious cannibal inhabitants; but now there comes from that country a communication addressed to B. P. Johnson, Secretary of the N. Y. State Agricultural Society, inviting the Society to co-operate in an International Exhibition to be held in the City of Dunedin, New-Zealand, Jan. 3d, 1865. The Commissioners of the British New-Zealand Government are very desirous to have our agricultural, horticultural and labor-saving machines represented, as there is great demand for them. They may be sent by the way of London, directed to the care of John Morrison, Esq., agent for the Exhibition, No. 3 Adelaide Place, E. C., London, up to the 1st of August at latest, or they may be shipped direct from New-York to the Secretary of the Government at Dunedin, New-Zealand. Our wide-awake manufacturers will appreciate the advantage to accrue from thus introducing their wares, to a new field



IMPORTED ALDERNEY COW "JUNO," PROPERTY OF CHAS. L. SHARPLESS.—*Engraved for the American Agriculturist.*

Alderney or Jersey Cattle.

The cattle of the Channel Islands possess certain marked peculiarities which distinguish them from the breeds of Great Britain, and show their kinship to those of the Continent, particularly to the cattle of Normandy and northern France, near which coast the islands are situated. On the islands of Jersey and Alderney, there has been for many years little or no importation of cattle from the mainland, and as the islands are small, the breed has become very distinctly marked. The Guernsey cattle approach much more nearly those of Normandy, and though of larger size than the little graceful Alderneys, and greater milkers perhaps, they are not so highly esteemed, and have not been so purely or carefully bred. The Agricultural Society of Jersey and many private breeders, have of late years taken great pains to improve the stock. For this reason, and because all the most prized importations are from this island, the name "Jersey" is often applied to the breed which was originally recognized as the "Alderney." In Great Britain, the Alderneys are scattered in small herds, chiefly in the hands of the wealthier class, gentlemen whose tables are supplied with the most golden of butter, and the richest of milk and cream from the pretty, gentle animals kept tethered upon the lawns. Many of them have only a single cow or two, and take no pains to breed them to good bulls of the same breed. The Alderney bull, besides, marks his offspring so strongly after his breed, that three-quarter, or even half-breeds often possess very nearly or quite as good milking qualities as full bloods, and look so nearly like them that only good judges can see the difference. It happens that as Alderney cows bring a good price in this country, and as the word *imported* seems with many persons to be a guaranty of all excellence, shipmasters find it convenient to bring out the cows which these English gentlemen have used, perhaps, until dry, and then exchanged or sold. The cows being bought by some dealer near Liverpool or other seaport, and kept until in milk again, are then put into market to be returned to some gentleman's lawn, or to be shipped across the Atlantic. No doubt many excellent cows may be obtained in this way—good enough for any body, as givers of rich milk. But in this way, much Alderney blood has been brought into the country which can not be considered as *pure*, or at least which no one can *prove* to be pure.

To be sure of the purity of the blood of these animals, one must be able to trace it straight back to the *Island of Jersey*, and we must add—*through the hands of men of most honorable character*. There has been so much jocky-like dealing that we are confident there is a great deal of impure blood now in the possession of men who desire nothing more than to establish well-bred herds of this favorite breed. Such men ought to subject the records of their animals to the severest tests, and weed out all concerning which there is a suspicion, or a flaw in the record.

The breed is fast improving in all good points, retaining at the same time its high character for richness of milk. Its characteristics are a peculiarly deer-like head, neck and legs, a soft coat and fine pliable skin, often of a rich, almost golden flesh-colored tint. The prevailing colors are white, black and dun, inclining to grey and red, with "mealy muzzles," and the backs usually dusted with grey, in the dark colored animals. The muzzles are black, usually, and often the entire interior of the mouth is of the same color. Neither cows nor bulls can be considered well shaped, yet the cows are very pretty, though small. They are exceedingly gentle, and feed well at a tether, ingeniously extricating themselves if they get into trouble. Their value is as milkers, and not for the quantity but for the richness and color of the milk, cream, and butter. In this they are not excelled by any known breed of kine. The milk is as yellow as most cream, and the cream itself is proportionately high colored, the butter being fine, waxy and of a beautiful golden yellow. The quantity made from the milk of the Alderney, is generally admitted to be greater than can be made from cows of any other breed, and certainly the color, flavor and general appearance mark it as so superior to most, that it always brings a higher price in markets where it is known. The cows, when dry or spayed, and the steers, fatten with great ease, and make most excellent beef. The bulls are apt to be fractious and ugly, and their dispositions contrast strongly with the truly feminine qualities of the cows.

The fine engraving herewith presented, is from an exquisitely beautiful photograph of "Juno," a cow of this breed imported from the island of Jersey, and owned by Chas. L. Sharpless, of Philad'a. The animal is a very beautiful one, and the engraving in no respect "flatters" the photograph, by making the head and feet smaller, the eye larger, the back straighter, etc., as is almost invariably the case with the pictures of animals taken by the artists who make animal drawing their profession. Nay—not animal drawing, but drawing simply to *please animal owners*. We are sick of seeing cattle all drawn to one pattern, and it is time that the costly caricatures which our stock-breeders use to represent their fine animals, gave place to *portraits*.

What is Inside of a Plant.

The minute cell structure and the manner in which the contents of cells pass from one to another, have been sufficiently explained, and it has also been stated that whatever goes on within the plant must take place within the minute cells which make up its whole mass. The relation of the root to the rest of the plant is well enough understood, as every one knows that it is mainly through the root that the plant receives the materials by which it continues its growth. It may be well to mention here some peculiarities of the root which has a manner of growth in some particulars unlike that of the stem. If the growth of a stem be observed, it will be seen to be increased by joints—a leaf or leaves, a portion of stem, another leaf or leaves, another piece of stem, and so on—and that the branches of the stem almost always come from buds situated where the leaves join it. Now nothing of this kind appears in the root, there are no regular joints, nor is there any fixed place for its branches to appear, but they are thrown off in the most irregular manner and at any point. There are some underground stems upon which joints and regular branches may be found, but these are not roots, although often mistaken for them. Then again, a joint of stem in growing increases throughout its whole length, while the root mainly elongates by forming new cells upon its lower end. This new growth takes place just behind the extreme point of the root and it is not at its very apex that the newest tissue is found. Many writers on horticulture, especially the English, constantly speak of the *spongioles* or *spongelets* as distinct organs upon the ends of the roots, having for their office the taking up of liquids from the soil. As absorption does not take place to any extent through the extreme tip of the root, but all parts are engaged in it, in proportion to their recent formation, it is evident that the word spongiole is one which may well be dropped. Very young roots have their absorbing surface much increased by means of prolongations of their cells to form root hairs, as they are called. These are very minute, but may be seen with a microscope upon the roots of seedlings; they appear as in fig. 9. The root takes up water, and whatever it may contain in solution, from the soil, conveys it to the leaves and then, under the influence of sun-light, so much as is needed in the growth of the plant is converted into elaborated sap, and those portions of the water and gaseous matter not required, pass off by the leaves. An account of all the changes which take place within the plant would not be within the scope of these articles, which set out only to show some things about plant structure which can not be seen by the unassisted eye. Suffice it to say that the leaves, and other green parts, are the laboratories in which the crude sap is converted into elaborated sap fit for plant growth, and that the great chemist, that converts the liquids taken up from the soil into material from which beautiful flowers and delicious fruits are formed, is the sun. One of the most important forms in which this elaborated sap finally appears, is the cell wall, of which various shapes have been shown in former articles.

Fig. 9.—ROOT HAIRS.

GRAINS IN STARCH, MAGNIFIED 250 DIAMETERS.—*Fig. 1. Wheat Starch.—Fig. 2. Rye Starch.—Fig. 3. Indian Corn Starch.—Fig. 4. Rice Starch.—Fig. 5. Tapioca Starch.—Fig. 6. West India Arrowroot.—Fig. 7. Potato Starch.—8. Pea Starch.*

The elaborated sap in the form of mucilage, or it may be, sugar, is carried to where growth is going on and there contributes to the increase of the minute cells of which the plant is built up. In the form of starch the material for growth is stored up to be used at a future time. We find it packed away in the seed to be used in the growth of the new plant, and in the potato to furnish food for the shoots which will start from it another season. The material of which the cell walls are formed, in both cellular and woody tissue, is called *cellulose*. This and starch, sugar, and mucilage are all found to be composed of the same chemical elements —carbon, oxygen and hydrogen—and in nearly the same proportion. The plant possesses the power of changing starch, sugar, and mucilage one into another, and of converting all of them ultimately into cell material. The sweetness of unripe corn and the lack of sugar when it is ripe is an illustration of the change of sugar into starch, and the sweetness of sprouting potatoes an instance in which starch becomes sugar. Sugar and mucilage are the soluble and movable forms in which we find the material prepared for the growth of the plant, starch the form in which it is stored up for future use, and the cell wall its ultimate product. Starch grains vary considerably in size and in form, both of which characters are so constant for each particular plant, that an experienced person can tell by means of the microscope, to what plant a given specimen of starch belongs. The grains differ in size in the same plant, but the larger grains are quite uniform. When seen with a powerful microscope, the grains appear marked with lines, as if the material was deposited in successive layers, and a nucleus or spot around which these layers are formed, can usually be seen near one end of the grain. Starch is not changed by cold water, but it swells up and forms a kind of mucilage in hot water. When heated to 300° it is converted into *dextrine* which is soluble in cold water, and when heated for some time with weak acid it is converted into sugar. Some of the principal varieties of starch are shown in the engraving. That of rice gives one of the smallest, with grains less than the $\frac{1}{3000}$ of an inch in diameter, while that of the potato shows large grains, $\frac{1}{100}$ of an inch long.

The starch grains are all shown magnified to 250 diameters and their relative size may be seen at a glance. Fig. 1 is wheat with large and small grains intermingled. Fig. 2 is rye starch with larger grains often marked with a cross-like crack. Fig. 3, is from Indian corn, with the grains very angular from being mutually compressed. Fig. 4 is rice starch. Fig. 5 is sago starch composed of curious grains shaped like a painter's muller. Fig. 6 is arrow-root, the produce of a tropical plant, and much used as a diet for the sick. Fig. 7 is potato starch, remarkable for its large grains, some of which appear like an oyster-shell. Fig. 8 is the curiously shaped starch grains from the pea

Treatment of House Plants in Summer

There are no doubt many of the readers of the *Agriculturist*, who from choice or necessity are obliged to keep many plants in pots all the year round. Every thing may go on well with them until the hot days of July and August, when they begin to flag and dwindle away. The rapid evaporation at these times creates a demand for frequent waterings, and even this fails to help in many cases. During the hot months it is best to remove the plants from the window altogether, and place them in a situation out of doors where they will have shade during the hottest portion of the day. If the pots can be plunged into soil up to their rims, the necessity for frequent watering will be diminished. Where this can not be done, the pots may be set in a box, or frame of boards, and the spaces between them filled up with moss, tan, sawdust, or even sand. This will prevent evaporation from the surface of the pots, and avoid the frequent alternations of moisture and dryness which occur to the roots of plants in pots not thus protected. Rapidly growing plants, such as geraniums, often become "pot-bound," which is the gardeners way of saying that the roots need more room. In this case select a pot an inch larger than the one already occupied by the plant. If the pot is a new one, set it in water for a few minutes, until it is thoroughly soaked through, take it out and let it drain until the surface is partially dry, then having placed in the bottom pieces of broken pots sufficient for drainage, put in earth enough to bring the plant to the proper height. Turn

the plant out of the old pot with its ball of earth, and place it in the new pot, and fill in fresh earth between the ball and the pot, giving the pot an occasional "jounce" to settle the earth. Water and shade for a few days and the plant will soon go on and make a new growth. It oftentimes happens that a plant gets in a bad way when the pot is large enough; the soil gets sour, as the gardeners say, which is due to abundant watering with insufficient drainage. In this case turn the ball of earth out of the pot and put it into a pail of water. Then prepare, the same pot, if large enough, or one of suitable size, by putting in some coarse fragments of pots or crockery, beginning with pieces half an inch across, and adding gradually smaller fragments, making the top layer of the size of peas or smaller. At least an inch of this material should be at the bottom of the pot, and over this a little moss to keep the earth from working in among it; now add the coarser lumps of the potting earth and then some of the finer. By this time the earth around the roots of the plant will be in the condition of mud, and with a few shakes may be readily washed out. Set the roots in the pot, first pruning off any unhealthy looking ones, and add earth gradually, working it in among the roots and thumping the pot occasionally to settle it. The plant is to be shaded from the hot sun until well established.

Bouquets and Bouquet Making.

To a lover of flowers nothing can be more beautiful than a bunch of them bound together in such a careless way that each flower has sufficient freedom to show its own peculiar habit. We prize such a bouquet, whether culled in our own garden or the gift of a friend, and we place it in water and enjoy its beauty until the

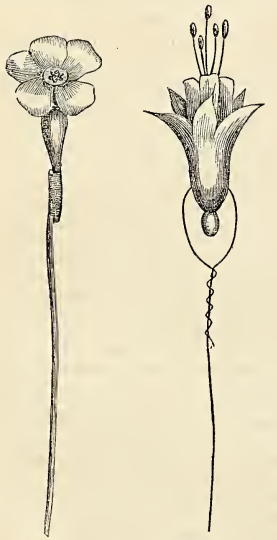


Fig. 1. Fig. 2.

ARTIFICIAL STEMS FOR FLOWERS.

last flower fades. This is the bouquet as we find it with those who have flowers in plenty, and among all flower lovers in the country—the real thing. The city bouquet from the florists is no more like this than a 5th Avenue residence is like a country farm-house. In one of these natural lovable bouquets there are flowers enough wasted, by being covered and out of sight, or in their yet undeveloped buds, to make a half dozen of the fashionable sort. The city florist, when he sells flowers, is very careful not to sell buds and stems at the same time. In the free way of cutting flowers with their own stems, there is involved a loss of fu-

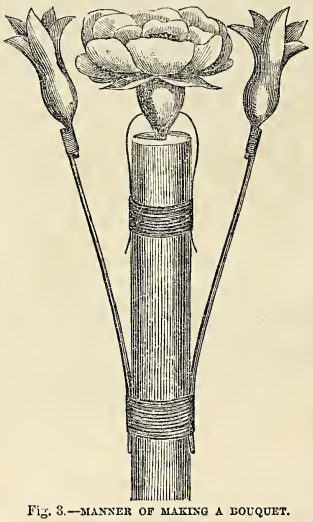


Fig. 3.—MANNER OF MAKING A BOUQUET.

ture bloom which he can ill afford, so the flowers are gathered stemless, and the want of their natural stalks supplied by means of art. With most bouquet makers the next thing in importance to flowers is a *broom*—a regular corn broom, and this, both brush and handle, is worked up into the most costly bouquets. The broom splints are broken apart and each separate flower is mounted on a broom-corn stem by means of a few turns of a thread-like annealed iron wire as in fig. 1. Sometimes strong elastic grass stems are employed, or pine is split into slivers and used instead of broom-corn, and frequently a coarser wire is used for the stem and is attached to the flower by running it through the lower part or the flower-cup, and twisting it below, as seen in fig. 2. A sufficient number of flowers being prepared in this way, the bouquet is then to be made up, and here is where the broom-handle comes into play. A piece of the stick of convenient length for the center of the bouquet is cut off. As it is customary to use a rose, camellia or other large flower for the center, that is fastened to the end of the stick by running a wire through the flower cup and fastening its ends to the stick by means of small twine as shown in fig. 3. Then the bouquet is gradually built up by adding the other flowers, and securing them in place by turns of small twine. Fig. 3 shows two of the small flowers attached in this way. The shape of the bouquet is governed by desire of the customer, a flat or slightly convex surface in which the flowers are all upon nearly the same level being the commonest form. Any desired shape can be given, and the bouquet will be flat or pyramidal according to the point at which the artificial stems are tied to the central support. All this artificial work is concealed by an edging of some kind of green—and the extreme of elegance is to have outside of this a white paper cone, bordered on its edge by a rich fringe of white silk. Bouquets made in this way, may sell from $5 to $20 or more, according to the season and the flowers used in making them. Flowers treated in this unnatural manner will keep much longer than one would suppose. Of course it is useless to put bouquets of this kind into water, but an occasional sprinkling will keep them fresh for some days, and if they are put under a glass shade, their beauty can be prolonged for a much greater time.

Tree Labels of Zinc, Slate, etc.

It is some time since the *Agriculturist* published the recipe for the ink which is used upon zinc tree labels. It has a chemical action on the metal and is indelible after remaining on a short time. Attach the labels to the trees or plants with copper, or better, with lead wire.

Ink.—Verdigris and sal ammoniac equal parts, lampblack enough to give blackness; rub well together and add water to bring it to a flowing consistence. Use a quill pen for marking.

The same zinc labels may be used, written upon with a soft black-lead pencil. The zinc quickly oxydizes, except where the writing protects it, so the mark soon becomes indelible and more distinct than at first. Some specimens of *slate labels* have been for some time upon the Exhibition Tables of the *Agriculturist* office. They were sent out from Germany as samples, but in sufficient quautity to be thoroughly tested by Mr. Fuller, through whom we received them. They are of all the usual shapes for tree and plant labels; round, oval, and oblong for attaching by wires to the plants, and straight slips for setting in pots or in the open ground, and of various sizes. They are written upon with the common carmine (wax) pencils, and the mark thus made, it is said, when exposed to the weather, will last for an indefinite period.

Strawberries Again.

Are the readers of the *Agriculturist* tired of the often repeated injunction to plant strawberries? If they are, let them provide themselves with a good strawberry bed at once, for it will be reiterated at proper seasons until we are assured that the majority of families in our immense parish have strawberries of their own raising, and no longer need to be "put up" to it. Spring is the best time to plant, according to some cultivators, while others prefer autumn. Plants well set in September will fruit next year; indeed they may be put out in August if the month does not happen to be too dry. Attention is called to the matter now, that a place may be selected and prepared in time for the proper season for planting. Any good, deep, well worked soil, which is not too stiff with clay, will grow good strawberries. Plow or spade deep, and if the soil is not rich, add muck, leaf mold, cow-yard, or any not over-stimulating kinds of manure. As to varieties, Triomphe de Gand, Wilson, and Austin may be named among the standard ones. Jenny Lind, Bartlett, and Early Scarlet are among the well tried sorts which are favorites with many, while there are numerous varieties which give great promise, but which have yet to stand the test of extended and continuous cultivation. Unfortunately we go to press about the time our Strawberry Show opens, and the results of that can not be given this month. There is no doubt that this, and other exhibitions to be held this season, will do much towards increasing our knowledge of the more re-

cently introduced varieties. New candidates for a place in the first class of fruits of any kind, have to undergo a probation of several years before they can be admitted. Continued culture in widely separated localities, not only often develops defects which were not before manifest, but subjects them to an unprejudiced judgment, which is often quite different from that of their enthusiastic originators. Doubtless this year of trial will do much toward establishing the standing of many of the newer strawberries, and show us that some steps have been made toward that perfection for which we are all striving.

The Hoe and Rake.

The artist in drawing the above little fancy vignette, has unintentionally conveyed a lesson which can not be too strongly enforced or too often repeated. He has represented ripe fruits and flourishing plants, and as intimately connected with these results, he has given the hoe and rake a conspicuous position in the picture. It is to be feared that many of the readers of the *Agriculturist*, no matter how enthusiastically they may have begun gardening in the spring, find that their garden tools need rest in these hot days of summer. There are some who believe that weeds do good by keeping the ground shaded and moist, forgetting that weeds are constantly taking up water from the soil and evaporating it through their leaves, and are thus robbing the earth of moisture. The only way to have good crops of any thing, whether in the fruit, vegetable or flower garden, is to keep down the weeds and keep the soil loose. Where the garden is sufficiently large, the cultivation may in good part be done by horse power, but in most family gardens some form of the hand-hoe will be in constant requisition. Whatever kind of hoe is used, let it be always *sharp* and *bright*. A few minutes sharpening upon the grindstone before commencing work, will do wonders toward lightening the task. The brightness will come if the hoe is kept busy. The ordinary field-hoe is the one most in use, and for general work is perhaps the most efficient. For working between rows, the Dutch or Push-hoe is a favorite with many, but for all small garden work give us the Bayonet-hoe.

Whoever invented this little implement deserves the thanks of the whole gardening community. It has been often alluded to in these pages, and was figured some years ago, but we engrave it again in order that those who can not find it on sale may have one made by a blacksmith. The shape is shown by the figure; its blade is 6 inches long, its greatest width 1¾ inches; it is strengthened by the thickening of the back, after the manner of a bayonet. One having an implement of this kind will be tempted to work in the garden just for the fun of seeing how much good work can be done with such insignificant looking help. If used endwise, it will stir the soil for several inches deep, and one can work close to the roots of plants without danger of injuring them; if kept sharp and used sidewise it will be found much handier to work with among plants than the common hoe, and equally destructive of weeds. By all means try a bayonet hoe.

BAYONET HOE.

The rake will be found to be a very efficient tool in light soils. By its frequent use weeds may be kept down and the soil loosened to a degree that the hoe may be in good part dispensed with. There is one garden implement in the picture which we do not advise the general use of: that is, the watering-pot. It must be a very dry time to render water necessary if the hoe and rake have been thoroughly used. When water must be given to save the plants, its use must be continued until rain comes to their relief.

Strawberries and Irrigation.

The following extracts from a letter from L. J. Rose Esq., of Los Angelos Co., Cal., not only give an interesting account of the mode of culture in that region, but are suggestive of experiments in those parts of the country where irrigation is not, as it is there, absolutely necessary. It is well known that in some parts of the South the fruiting season of the strawberry is much prolonged by planting on the banks of streams, and it would be certainly worth while for those conveniently situated to try what the effect of irrigation would be in the Northern States. One great cause of the failure of the crop is excessive dryness just as the fruit is forming, and this could be obviated if one had the means of irrigating at will. Our correspondent's observations in relation to the lands and cultivation in New Mexico accord with the writer's observations during protracted visits to that Territory, made at intervals through three years.

"Strawberries are cultivated here by a few, and to a limited extent; I don't think there are two acres all told in the County. The only variety that I have seen is Longworth's Prolific, which bears with irrigation continually, and I suppose bountifully, from the first of April to the first of December, a few days earlier or a month later according to the season. They have no other care than removing runners, weeding and irrigating say once a month. There is a half acre of this strawberry cultivated by a neighbor, which has been in cultivation for six years, and has increased in bearing every succeeding year, as the stools increased in size, with no other care than removing runners, weeding, irrigating, mowing the tops, and spading the ground between the vines in January. I have a plot of 12 rows, each 120 feet long, the plants about 18 inches apart in the row, which I cultivate with a plow, and from which we now pick ten to twelve quarts daily, picking six rows each alternate day. It will keep in nearly this state of productiveness until December, and this too without it having been once manured; the land has been in cultivation for many years. We began picking the 20th of March and picked every other day.

"Irrigation, which almost all could have, is entirely overlooked, yet it is a great fertilizer in some way, either in itself or indirectly, and when it is remembered that lands have been cultivated for centuries, with nothing given to them in the way of manure except *clear* water, that these lands are now as fertile, and even more so, than lands lying adjoining which have never been cultivated, it would lead to the conclusion that water is a fertilizer in itself. It is a fact that ground which is irrigated requires no manure, and that irrigation, even in countries where they have more seasonable rains than in the United States, still adds largely to the yield.

"During the last six years I have seen much of irrigation and observed closely. I carried on farming and gardening in New Mexico, farming on the Pecos and gardening in Santa Fe, both old cultivated places; in fact no one could say how long the land had been in cultivation, first by the Indians and subsequently by the Mexicans, during hundreds of years. It is almost certain that the land was never manured, and yet it year after year produces extraordinary crops of wheat both in quantity and quality, the wheat being the fairest, plumpest, and heaviest I ever saw in any country. Since then I have been in California, and in this, Los Angelos County, where there is more irrigation practised than farther north, and nearly as much as in New Mexico. I have now a vineyard and fruit garden, and keep the water running nearly all the time. My vineyard is young, so too my fruit trees, and I irrigate more than would be necessary or even beneficial for the fruit, in order to get the greatest growth in the shortest time. This would not do with you, but as we have scarcely a frost here (tobacco not being killed this winter), wood can ripen any time. Nor are all things irrigated in equal quantity, some trees requiring absolutely no water, and a vineyard probably as little as any, and were it not that I fear the land would wear out, none at all. No one ever thinks of manuring, and can see no necessity for it. There are vineyards here seventy years old, and as productive to-day as at any time of their existence; so too with trees or farm products of any kind with irrigation. The ground remains productive and it is generally sandy land, which would under ordinary cultivation soon become exhausted. With irrigation too, there can scarcely be a failure to raise a crop, for the drouth can have no effect. Probably nine-tenths of short crops are caused by drouth and worn out land. Nor is irrigation any great expense. As a general thing, one man can irrigate as much land as he can plow."

Cactuses as Bedding Plants.

There are but few of the Cactus family which bloom in winter, do what we will with them. They should be kept quite dry during the winter season, and have only water enough to keep them from wilting. In spring they will come out in their full glory and may be kept in the room or on the verandah or, what is better than either, the pots may be plunged up to their rims in the border and left to take their chances. They will get water enough from the rains and if properly tied to stakes will make a brilliant show for a good part of the summer They should be set in a sunny exposure.

The Cranberry Tree.
(*Viburnum Opulus.*)

This is a native shrub, found in low grounds in most parts of our country and in Europe. It forms a bush or low tree from three to ten feet high, with smooth green branches, and strongly lobed leaves of the shape represented in the engraving; these are of a bright green during summer, and in autumn a fine crimson color. The flowers, which appear late in May or early in June, are white, in broad flattened clusters, and produced in great profusion. The proper flowers are very small, the corolla being five-parted, with five stamens. Around the outside of the cluster are scattered numerous abortive flowers, which have neither stamens nor pistil, but consist entirely of a corolla many times larger than that of the perfect flowers. These sterile flowers make the bush when in bloom quite showy. The perfect flowers are succeeded by an oval flattened berry, containing a single flattened stone which is surrounded by an acid pulp. When ripe, the berries are bright red and make a brilliant appearance. In the engraving both fruit and flowers are shown of nearly the natural size, and they are, as a matter of convenience, represented as appearing at the same time. The bush will grow readily in any fair soil, and it is worthy a place among cultivated shrubs, not only on account of its flowers, but for its foliage and fruit. When trimmed up to a single stem, it forms a neat small tree and grows much taller than if left to take its own shape. The old and well known Snow-ball Tree, or Guelder Rose, is a variety of this, in which all the flowers in the cluster are barren, like the few on the margin of the clusters of the one here figured. The name of Cranberry Tree, or High-bush Cranberry, is given on account of the color and acid taste of the fruit. It has been employed in place of cranberries for which it is a very poor substitute, as the acid is too much mingled with bitter to be pleasant, and the seeds are much too large in proportion to the pulp. A case has recently come to our knowledge in which a tree peddler took orders for cranberries for upland culture, and supplied plants of this shrub. As the same swindle may be tried elsewhere, our readers should be on their guard. Though worthy of attention as an ornamental shrub, it is quite worthless for its fruit. Plants can be taken from their wild localities, and they may be multiplied by layers and suckers. It is well to mark during the flowering season shrubs of any kind which it is desired to introduce into the grounds. A small strip of cloth tied to the shrub, is readily seen after the leaves have fallen.

Some of the New Weigelas.

Among flowering shrubs of comparatively recent introduction, none have attained greater popularity than the Weigelas. The *Weigela rosea* was introduced into England in 1845, and the *amabilis* somewhat later. They came to this country as great rarities, and at first bore a high price, but they are now very cheap and are to be found in all good collections of shrubs. A great many seedlings have been produced, some of which are marked improvements over the original species. Mr. A. Fuller, of Brooklyn, has sent us from his collection at the Brooklyn Nursery some specimens of exceeding beauty. Among them we notice the variety called *Isoline*, the flowers of which are nearly white when they first open, but afterward turn to a delicate pink. *Van Houtteii* has the habit of *amabilis*, but the flowers of *rosea*. *Deboisiana* has buds of a dark crimson and very dark flowers, the lower lobe of which is marked with a yellow band. The foliage is very robust, of a fine dark green; the bush has a fine erect habit and is a profuse bloomer. This is by far the finest variety we have seen. Of the variegated leaved variety, now quite common, there seems to be two distinct sorts, one with the markings of the leaves of a greenish yellow, while in the other they are of a clear cream-white. The last named is much the finest, and is not excelled in beauty by any of the so-called foliage plants. These plants, strictly speaking, belong to the genus *Diervilla*, but we have preferred to call them by the name by which they are known in gardens.

The Camellia-flowered Peach.

We are indebted to the Rose-family for many of the showiest ornaments of our gardens. The flowers of this family have a remarkable tendency to become double, and double roses, almonds, cherries, plums, spireas, peaches, etc., are among our most popular spring-flowers. A double peach has long been known, but the old variety is far surpassed by the Camellia-flowered, which was introduced from China some years ago, but which seems to be as yet but little distributed. The engraving was made from a specimen taken from a plant nearly out of bloom, and does not show the flowers as large and as abundant as when in perfection. It may be pruned to form a compact bush about six feet high, and when in bloom, it forms a gorgeous mass of brilliant crimson flowers. The bush may be propagated by budding on the common peach; it will usually flower at two years from the bud. It should

CAMELLIA-FLOWERED PEACH.

be planted in good soil and have the new growth cut back about one-third each year. Recently two specimens of double apple-flowers have been exhibited to us. One was from a wild seedling, and from the high color of its flowers, would be very ornamental. The other was from an Early Bough tree, which, after producing single flowers to provide for a crop of fruit, showed late flowers as double as a rose.

The Pokeweed.
(*Phytolacca decandra.*)

In the spring there may be seen along the borders of fields and in clearings, clusters of vigorous but tender green shoots rising from the ground, which soon rapidly develop and form a smooth branching plant, 4 to 8 feet high, which is known in various parts of the country as Poke, Skoke, Garget and Pigeon-berry. It is a native plant which grows nearly all over the United States, and has become naturalized in Europe, as a small return for the many weeds that continent has sent to ours. The root, which grows to a great size, is perennial, much branched and fleshy. The stem is smooth and somewhat ribbed, and has a large pith, which is curiously split up into horizontal plates, which, when the stem is killed by the frost, can be readily separated: the stem in the engraving, is cut in a manner to show this peculiarity, the shape of the large smooth leaves is also given, and that of the flower clusters or racemes, which are borne opposite the leaves and are from 3 to 6 inches long. The flowers are *apetalous*, i.e., have no petals; the calyx, however, becomes whitish and petal-like, and consists of five parts. A single enlarged flower is shown, which exhibits its structure. There are 10 stamens, and the pistil consists of 10 parts united into one, the ridges upon it showing that it is a compound pistil. In ripening the pistil becomes a flattened 10 seeded berry of a dark purple, almost black color, and filled with an abundant rich purple juice. The lower berries of a cluster are frequently ripe while the uppermost flowers are just opening. Though this is usually regarded as a weed, we confess to a liking for it on account of its beauty in autumn. At that season its stem, which has been green through the summer, becomes purple, and with its drooping clusters of darker colored berries, the plant presents a rich and ripe appearance which would make it much sought after for purposes of ornament, were it not so common. The name *Phytolacca* is supposed to be derived from the Greek word for plant and the French for lake, as the juice of the berries resembles in color the paint known as lake. The beautiful color of the berries fades very soon, as many a school boy has found to his disappointment, after using the juice as red ink. We believe that all attempts to fix or "set" the color have been unsuccessful. The root is sometimes used medicinally; it acts as an emetic and purgative, but as it also has narcotic properties it is not much employed. The berries are used, in some parts of the country, infused in spirits as a domestic remedy for rheumatism. It is to be distinctly understood that whatever is stated about the alleged medicinal qualities of plants, is merely given as a part of their history, and without any recommendation to use them. The young shoots when about the size of asparagus, are cooked and eaten like that vegetable. To the writer's taste they are excellent. It would seem that the active principle of the plant is not developed in the young shoots, or that it is destroyed in cooking. They should be used as food only when very young and tender.

THE HOUSEHOLD.

Hints upon Dyeing.

Various recipes for making domestic dyes are published in the *Agriculturist*, some of them good, and some of doubtful practicability. It is very important in these times of high prices that every possible household expense should be diminished, and if dyeing can be done more economically at home than by sending the stuffs to the dyers, it should by all means be tried. We fear that many will find their attempts at domestic dyeing attended with unsatisfactory results, for the want of a knowledge of a few matters of practical importance. In the first place every article to be dyed must be thoroughly cleansed, and all streaks and stains removed. Not a mere careless washing, but a thorough scouring of the material is required. This operation will depend upon the stuff and the character of the stains. Boiling in strong soft soap suds, with a second boiling in fresh suds if the material is very dirty, and afterward a *thorough* rinsing will often be a sufficient preparation. If there are spots of wax, pitch or similar substances, they must be removed by benzine, and if there are stains of iron-rust, oxalic acid may be used to remove them, washing out the acid completely after the rust is dissolved. In dyeing goods which already have a color, it must be recollected that it is impossible to dye goods already dark, of a lighter color, without first discharging the dye they already have and that the existing color, even if light, will modify that which we wish to produce, to a greater or less degree. Boiling with strong soap suds will discharge a great many light and fugitive colors. Others may be taken out or greatly weakened by putting them into water to which sulphuric acid (oil of vitriol) has been added in sufficient quantity to make it taste unpleasantly sour. In either case the fabric should be repeatedly thoroughly rinsed before putting it into the dye. Great care is necessary in immersing the stuff in the dye; it thrown in carelessly there will be wrinkles and folds which prevent free contact with the dyeing liquid, and streaks will be formed which no after care will remove. The cloth should be allowed to fall loosely and gradually into the dye in a manner to insure a thorough and equal wetting at once, and and while it remains in, it should be frequently stirred in order to insure uniformity of color. When the desired depth of color has been obtained, the material is to be thoroughly washed until the water runs off tasteless and colorless. Regular dyers give their silks and some other goods a finish by dressing them upon a large cylinder heated by steam. This process can be imitated in a small way by the use of a large tin wash boiler, filled with boiling water. The wet goods are to be laid against the outside, which should be very clean, and stretched with the threads running straight, and smoothed out with a sponge dipped in a *weak* solution of gum arabic; this will give a gloss and stiffness. When the articles are dry they may be removed.

Bread—Quick versus Slow.

Every one must agree with your April correspondent that bread-making which requires from six at night until noon of following day for raising and baking, is truly a "long process." It is wearisome to mind and body to think of it. Being enthusiastic naturally, and rather carried away with success, my *kneading* sisters need not think me conceited, if I assure them with great complacency that I can dispel all their fears, and chase away their trials with a few strokes of the pen. So come around me those who so often respond to the petition for "daily bread," with a prayerful sigh that it may come, light and sweet too, and I will show you a "better way." Instead of protracted agony of 12 or 18 hours, it will only be a pleasant exercise of a few minutes in making it—just two hours for raising—and baked in 50 minutes, and then, out comes the loaves, so round and light, so tender and sweet, the whole household will be delighted.

The first thing, and last in fact, is *proper temperature*, both while making it, and in process of raising. Without heat, internal as well as external, fermentation can not be rapid enough. Then heat two bricks to 100° or more, and place the pan you make the bread in, on them, and so knead and work in the heat with the materials. And now, though the great army of bread makers stand up in flour-y array against me, and even shake their dough-y fingers at me, I shall not wince or "abate one jot." "Success is the test of merit," as the world goes, and this past delusive notion that after bread is light once, it must forsooth be moulded over into loaves and set to work again, is all nonsense. It often induces sourness, certainly multiplies labor, and takes time. Well then, have two tins well greased (butter is hopeless in these days) and divide the dough equally. (I use two quart tins, which of course requires two quarts of flour and over for a loaf) and set them to rise by the stove *on the hot bricks*, with a piece of carpet over the bricks to moderate the heat, and then well cover with warm woollens. In two hours it will be rising like Aladdin's palace, and when fairly brimming full, place it in your oven, and you will soon have as delicious bread to eat as one ought to expect out of Paradise. I claim this as original, and only ask you to follow these directions and give us the result in the next

number of the *Agriculturist*. Thus bread-making ceases to be the tax on time and patience it usually is, and the harassing doubts and fears one usually goes through with while following the old method, are quite done away with.

I could say much on the philosophy of baking it, in adjusting the "golden mean," which after all is half. A peep into some of the closed ovens would, I fear, call out the exclamation of the dogs in Landseer's picture of "too hot, too hot." I hope you will all be sufficiently thankful for my advice, and follow it! I shouldn't be surprised in time if I should have a tin tea set awarded to me, or a monument representing loaves of bread erected for me. At all events I seriously hope the "Crusty Bachelor," of Jan. number, will soon find one among the daughters of earth capable of supplying him with "never ending still beginning" loaves of uncriticisable bread which his soul so longs for—or I would suggest to make "assurance doubly sure," some baker's widow—but I dare say my tins are already running over with the above described bread, and I fly. HATT.

Patriotism Among the Ladies.

"I wish I were a man," has been the exclamation of many a noble-spirited woman, since the breaking out of the war. The rabid devotion to the cause of Secession shown by females at the South, has been met with the manifestation of fervid patriotism by the wives and mothers of the North, and they have found means to evince their love of country, although not permitted to join their brethern in the field. Many have gone as nurses, others have contributed supplies through Sanitary Fairs, or with their own hands have prepared needed articles for the wounded. Recently, by the action of some of the leading spirits in social society, another avenue for the expression of this noble feeling has been opened, which, though perhaps less attractive, is scarcely less important. As is well known, the war has given to many, unprecedented opportunities of making money, and thousands suddenly grown rich, are displaying their good fortune in the most extravagant style of living and dress. Dealers in costly fabrics and jewelry state that they have never before had so large a trade, and the streets of our cities are fairly ablaze with the silks, laces, diamonds, and showy equipage of this class. As might be expected, the influence of their example has been felt throughout society, and there has been an increase of fashionable display, little befitting the terrible realities of the struggle which convulses the nation. It is no time for festivity and folly when thousands of our brave brothers are lying in anguish upon the field, and many a household is shrouded in gloom by the loss of loved ones sacrificed to their country. Neither can we as a people *afford* such a costly style of living. The burdens imposed by the war can be borne, but they may be greatly lightened by the exercise of proper economy; and those who do not feel the need of retrenchment can find ample use for their abundance, in promoting the benevolent enterprises growing out of the war, the Sanitary and Christian Commissions, and the care of the soldiers' families. These considerations have impelled some of our noble minded women to attempt a needed reform.

The first meeting on the subject, held at the National Capital, was attended by those occupying the highest position in society. After consultation, a pledge was adopted, binding those who subscribed to it, to purchase no articles of foreign manufacture during the continuance of the war. This, we regret to say, was subsequently modified so as to exclude only such articles as could be produced in our own country. As most imported articles of dress are merely luxuries, the original resolution would have largely covered the ground desired. As it now stands, little will be effected, except to call attention to the subject, which is the purpose of this article. Societies to extend the movement are being formed in this and other cities, and if the spirit instead of the letter of the pledge is carried out, great good will be accomplished. It is not necessary, however, that any one wait for a society to be formed, before co-operating in the reform. If a hundred thousand ladies throughout the country would individually say, we will purchase no more foreign silks, laces, gloves, ornaments, nor luxuries of any kind until the rebellion is crushed and peace restored, their noble resolution would inspire general respect for themselves and a movement of needed reform in their own neighborhoods. We love to speak of the patriotism which excluded tea from the tables of our grandmothers; let our women show themselves not unworthy of such ancestry. We commend the subject to all our readers. Let it be discussed, at the sewing societies, quiltings, and other social meetings, and let us hear of a general response to the proposition.

Neat Way of Putting up Honey.

Mr. R. S. Torry, of Bangor, Me., lately described to us his method of preparing honey for market, by the attractiveness of which the article commanded a high price and a ready sale. We give it for the benefit of the readers of the *American Agriculturist*. Ordinary plain glass tumblers of uniform size are provided, and the top edge of each is ground even; which is done by Mr. T. upon a horizontal grindstone. Pieces of comb containing honey are cut so that one will just fit a tumbler; in which they are to be set with the cells horizontal, as they hang in the hive. Strained honey is heated to near boiling, which will prevent its becoming candied, and after cooling, is poured into the tumblers, to fill all the space left by the comb. Care is taken to fill them even with the brim, so that no air may remain when the cover is put on. For the cover, take pieces of pasteboard, cut to the size of a tumbler, and cover one side with gum shellac dissolved in alcohol. While the shellac is soft, lay the cover, gummed side down upon the tumbler, and apply pressure sufficient to force the edge of the tumbler into the shellac. Or if the shellac can not be readily procured, probably it would serve the purpose as well to dip the covers into melted beeswax, and apply them before the wax has entirely cooled. The covers may be conveniently forced down by placing them under a cheese press, laying a board upon them, and applying sufficient pressure. When this is done, a strip of tissue paper with the lower edge cut in points is pasted around the edge of the cover, and a neat label, or plain white paper pasted over the top completes the arrangement. Tumblers of honey prepared in this way have retailed as high as 50 cents each, half of which price would give ample profit on the materials and labor.

A Convenient "Help" in the Kitchen.

Hurbert writes: "There is a great deal of 'gumption' to be exercised in the simple operation of washing dishes. If plates are plunged into the water as they come from the table, with fragments of butter and congealed gravy adhering to them, the water soon becomes so greasy that clean washing is impossible, and a thin layer of grease is left on the dish, which does not rinse off, and which is spread in unsightly streaks by the wiping towel. (*Mem.* Never look at your plate at a hotel, restaurant or cheap boarding house.) These greasy matters are scraped off, previous to washing, by all careful house-keepers, but a common knife is used for the purpose, and as this touches but a small part of the surface at once, the end sought is but imperfectly accomplished. I have for some years used a thin flexible steel knife, that is called a pallet knife by the painter, and a spatula by the apothecary. This bends readily and adapts itself to curved surfaces, and will remove all that can be scraped off, with wonderful facility. It is useful not only in cleaning plates, but all cooking utensils, especially if the cook has been so careless as to allow the material to become scorched at the bottom. It is such a real 'help' to the housekeeper that I wonder it is not more generally used."

Hints on Cooking, etc.

Improving Corn Meal.—Mrs. H. B. Gulliver, Bureau Co., Ill., writes to the *American Agriculturist*, that Indian meal is much improved for cooking by being kiln-dried. Her practice is to spread it on a dripping-pan, and heat in the oven.

Virginia Corn Dodgers.—A subscriber writes that these have given such satisfaction upon recent trial, that we republish the directions which originally appeared with 32 other excellent recipes for cooking Indian meal, in the *American Agriculturist*, Vol. XX, page 342, (Nov. No.) Take three pints of unsifted yellow corn meal, one tablespoonful of lard, and one pint of milk, work all well together, and bake in cakes the size of the hand, and an inch thick. To be eaten hot, with butter, molasses, or both, as preferred. Our more recent subscribers will also find 100 approved recipes for making bread, cake, etc., of Indian meal, in the *Agriculturist*, Vol. XXI, pages 54, 86, (Feb. and March Nos.) They are worth the price of a whole year.

Corn Meal Crullers.—Contributed to the *American Agriculturist* by Ada F. Shepard, Doniphan Co., Kansas. Beat 4 eggs light, and pour on them one quart of sour milk (if sweet milk, cream of tartar must be used); add half a teaspoonful of salt, and a small teaspoonful of soda; stir them all together, and then stir in sifted corn meal enough to make a very stiff batter. Have ready a frying pan, half full of hot lard, into which drop the batter from a spoon; when nicely browned, turn them over, and when done, lay them on a colander to drain, and send to the table hot.

Green Corn Pudding.—Communicated to the *American Agriculturist* by a Pennsylvanian. Take 1 doz. ears of sweet corn, 1 pint cream, 3 eggs, 4 tablespoonfuls flour, 1 tablespoonful sugar, a little butter, and salt to the taste. Grate the corn, and beat the yolks and all, well together—adding the whites of the egg (very well beaten) the last thing before putting into the bake-pan, which must be well greased. Bake one hour, in a good oven.

To Cook Green Corn.—Contributed to the *American Agriculturist* by "Frances." Take 2 doz. ears of green corn, well cleaned from the silk, slightly cut off the edge of the kernels with a sharp knife, and *scrape* the remainder off. Place in a pot with 2 teacupfuls of water. When cooked out so there is danger of burning, thin with sweet milk. When well done, season with salt, and add butter to your taste.

Cake for Dessert.—Contributed to the *American Agriculturist* by Miss E. Smith, Yates Co., N. Y. Mix 4 eggs, 2 quarts sweet milk, 1 teaspoonful salt, ½ teaspoonful of soda, and 3 teacupfuls of flour. Spread it thin in tins and bake 15 or 20 minutes. To be eaten with butter and sugar.

Tea Cake.—Original recipe for the *American Agriculturist* from Tioga Co., Penn. Mix 2 cups cream, 3 cups sugar, 5 eggs, the whites beaten to a stiff froth, 1 teaspoonful soda, flour to make about as stiff as pound cake. Salt and spice to the taste.

Number Cake.—Contributed to the *American Agriculturist* by Ella Lamb, Dickerson Co., Kansas. Ingredients: 1 cup of butter, 2 of sugar, and 3 eggs. Beat the eggs and sugar together, then add one grated nutmeg and one teaspoonful of saleratus. Stiffen with sufficient flour, roll them, cut in rounds, and bake in a quick oven.

Scalded Ginger Cake.—By the same: Put 1 pint of molasses and 2 spoonfuls of butter in a pan, heat to boiling, then pour it on to 1 quart of flour. Stir it well and when cool add 2 eggs well beaten, 1 tablespoonful of soda dissolved in two large spoonfuls of brandy, and one of ginger. Add enough flour to make it thick enough to roll; work it out thin, and bake in square tins.

Fruit Cake.—Contributed to the *American Agriculturist* by Eva E. Vedder, Grand Lake Co., Wis. Pour 1 pt. of boiling water on ¾ lb. of fat salt pork, chopped very fine, let it stand until it cools, add 2 cups of sugar and 1 of molasses, 1½ lbs.

of raisins, 2 teaspoonfuls of soda, 5 cups of flour, 1 tablespoonful of cinnamon, and ½ do. of cloves. More fruit and spice can be added if wished.

Huckleberry Griddle Cakes.— By the same. Stir in one even teaspoonful of soda to two quarts of sweet milk, one teaspoonful of salt: one pint of ripe huckleberries with flour to make a thick batter; bake on a griddle as other cakes.

Potato Griddle Cakes.—1 qt. of milk, 6 cold boiled potatoes grated, 2 eggs, and flour sufficient to make a batter.

Jelly Cake.—Contributed to the *American Agriculturist* by Lizzie Davis, Venango Co., Pa. Take 1 cup of sugar, 4 eggs, 1 cup of flour, ½ teaspoonful soda dissolved in a tablespoonful of sweet milk, and 1 teaspoonful cream of tartar mixed in flour. Bake in one long tin, then spread with jelly, roll up, and cut in slices.

Doughnuts.—By the same contributor. To 1 quart of milk add ½ lb. of butter, 1½ lbs. of sugar, 1 teaspoonful of soda, and 2 of cream of tartar dissolved separately in as little water as possible. Mix with sufficient flour, and boil immediately.

Muffins.—By the same. Take 1 qt. new milk, 2 eggs, 2 tablespoonfuls yeast, butter the size of an egg. Warm the milk, and mix with other ingredients at night; in the morning turn into muffin rings, or drop on tins, and bake a light brown. To be eaten with butter for breakfast.

Cinnamon Wafers.—1 lb. of sugar, ½ lb. butter, 3 eggs, ½ teaspoonful of soda, 1 tablespoonful of cinnamon, and flour enough to roll out: to be made the same as ginger snaps.

Good Biscuit.—Two teaspoonfuls cream tartar, one of soda, half do. of salt, rubbed fine, and well mixed with one quart of flour. Rub in a piece of butter the size of an egg, mix up soft with thick sour milk or buttermilk, and bake quickly.

Cream Pie.—Contributed to the *American Agriculturist* by "M. E. P.", Winterpoint, Maine. Mix together 1 egg, 1 cup sugar, a piece of butter as large as an egg, 3 cups flour, 1 teaspoonful cream tartar, ½ teaspoonful soda, 1 cup sweet milk. Pour this on tin plates, and bake light brown. When cold, split them open and put in the custard, made as follows: Take 2 eggs, 1 cup sugar, ½ cup flour, 1 pint milk; flavor with lemon. Beat the eggs, sugar and flour together; boil the milk, and while boiling stir in the mixture, letting it cook a few seconds. The above quantity will make three common sized pies.

Vinegar Pie.—Contributed to the *American Agriculturist* by C. Glidewell: Mix 2 cups of vinegar, 1½ of sugar, 2 tablespoonfuls of flour, and a piece of butter the size of a walnut. Prepare a paste to receive these ingredients, and bake the same as any ordinary pie.

Sorgo Apple Sauce.—By the same. Put a pint of sorgo syrup on to boil, and then beat 3 eggs to a froth. As soon as the syrup boils, pour in the eggs, stirring rapidly all the time. Let it boil three minutes, then pour it into a cool dish, and stir in a little good vinegar, or lemon juice. When cold it is a good substitute for apple butter.

Float.—By the same. Take 1 quart of new milk and 5 eggs; beat the whites to a stiff froth, have the milk ready boiling in a skillet and with a spoon place the whites in it, turn them over quickly, then lift them out carefully, and place them on a plate. Now beat the yolks well, add 1 large spoonful flour, 2 tablespoonfuls of sugar and some grated nutmeg or lemon, and 2 spoonfuls of cold milk; stir them all together, then pour it in to the milk, stirring it to keep it smooth. Let it boil, turn it out in a deep dish, place the whites on it, and it is now ready for use. A few drops of jelly or colored sugar on the whites improves the looks.

To Keep Honey.—M. Sands, Orange Co., N. Y., directs to heat strained honey to the boiling point, and store it in covered jars, where it will keep without candying. To prevent danger of burning, set the vessel in which it is to be heated into another containing water.

BOYS & GIRLS' COLUMNS.

Thoughts for the Fourth.

Every American boy welcomes the return of the 4th of July, the Anniversary of the Declaration of the Independence of the United States. The writer well remembers how, when a boy, he used for a long time to count the weeks and days before it arrived; how he contrived ways and means for getting money with which to celebrate it, and how much he enjoyed the fire crackers and torpedoes of his own, and the reports of the pistols, guns and cannon of the neighborhood. He can, therefore, well sympathize with those who enjoy it now as he did years ago.—Thousands are now realizing as they never did before, what a price was paid by our forefathers for their and our enjoyment of liberty. They pledged their lives, their fortunes, and their sacred honor, and freely gave up all but the last to maintain their rights. Our brave soldiers are doing the same to-day, and their loved ones at home are making equal sacrifices by giving the treasures of their hearts to their country. The battle now is for the preservation of the inheritance our fathers bequeathed. We should be unworthy to retain it, if unwilling to defend the glorious institutions they founded. Every booming cannon and cracking rifle, whether on the battle field, or in the peaceful celebration at home, answers. "Our Union shall be preserved." The girls and boys should remember that something more than armies are needed to make our nation permanent and glorious. Intelligence and virtue are the foundations of freedom. Without these liberty must speedily yield to despotism; with them it will remain perpetual. Our strength as a Nation is not so much in the hundreds of thousands of muskets and cannon in the field, as in the character of the men who stand behind them. Every school-house and church is a great magazine furnishing the mightiest weapons for the defence of truth and liberty. Every scholar who is improving his privileges, is preparing for his part in the future conflicts which shall decide the destiny of the Nation. Every victory over ignorance, or an evil habit, is a telling blow for the future glory of the Nation. Just as each dew drop that freshens a spear of grass, or a thirsty blade of grain, adds to the coming harvest, so every right thought, word or action, contributes to the grand sum of a Nation's prosperity. We fervently hope that on the coming *Fourth*, we may be permitted to celebrate the destruction of the citadel of the Rebellion, as well as the foundation of our national institutions, but whether this be permitted or not, we trust that this and each succeeding Anniversary of Independence may find every young reader more worthy of, and better prepared to preserve, the liberty they enjoy.

Washington's Blessing on a Child.

During a celebration which occurred in New York City during the life of Washington, the General was present, and a Scotch nurse who had the care of a little boy was observed to eagerly lift him up that he might look upon the Father of his country. She was not satisfied with this, however, and the next day while out walking with the child, she saw the General in a store, and darting in she exclaimed, "Please your Excellency, here's a bairn that's called after ye." Washington turned his benevolent face full upon the lad, smiled, laid his hand upon the boy's head and gave his blessing. In after years the boy, then a distinguished man, used to say, "I have reason to believe that blessing has attended me through life. I was but five years old, yet I can feel that hand even now." The boy was Washington Irving, to whom, perhaps as a fruit of that blessing, we are indebted for the best biography of George Washington.

WITTY RETORT.—A man with a looking-glass under his arm met a boy, and thought he would be witty at his expense. "Here, boy!" said he; "just come and look in this glass and you'll see a monkey." "You don't say," replied the boy, "how did you find that out?"

The Deserted Bird's Revenge.

An English paper relates the following incident, said to have occurred in a wagon shop on the river Tyne. Two sparrows were observed constructing their nest on one of the beams overhead, but after working several days their building operations were suspended. A few mornings afterward the female bird reappeared, accompanied by a new mate, who immediately commenced battle with the rejected bird for possession of the nest, and finally drove him away. He, however, shortly returned, and watching an opportunity when his enemies were both absent, he deliberately placed his back beneath the tiny structure, raised it from its resting place and sent it tumbling to the ground. The excitement shown by the two birds on their return, at seeing their dwelling destroyed, was very amusing. However, they soon commenced building again, the retected mate watching their proceedings with much interest. When it was nearly completed, during their absence he destroyed the fabric as before. Finding that they could not succeed in their labors in that place, the baffled birds chose some other location. Whether the jealous bird followed them with his vengeance, the observers were unable to discover.

Somewhat of a Mistake.

A gentleman in New-Haven, was recently showing to some friends a package of the new five-twenty Government Bonds; one of which was for $500. They left soon after, and presently this bond was discovered to be missing. The owner immediately notified the police, and telegraphed to his banker to learn the number stamped on the bond he had bought. Nothing could be heard about the valuable paper until in the afternoon one of the friends came in, and hearing the gentleman's story of his loss, inquired "Do you mean them things you was showing us?" "Yes," was the reply. "Well, I guess I put one in my pocket. I supposed they were a new kind of handbills, and I thought I would take one home and read it. I guess it's in one of my overcoat pockets," and he immediately looked, and found it. Another one of the party, a Captain of a boat said afterward that when looking at the bills, he had intended to take one and tack it up in his cabin, but thought he would have time enough to get one before he left for home.

New Puzzles to be Answered.

No. 90. *Illustrated Proverb* in very common use.

No. 91. *Double Acrostics.*—Contributed to the *American Agriculturist*, by a subscriber at Calais, Maine. FIRST; A noted character in the Old Testament. SECOND; A means of ascent. 1. A wild animal; 2. A celebrated ancient city; 3. An old term with a new application; 4. Describing the condition of 3; 5. Something of frequent occurrence; 6. Often follows 5. *Another:* FIRST; A prominent politician. SECOND; An ex-Governor, now a General. 1. An association, also a weapon; 2. An early spring flower; 3. A tribe of the East; 4. What cowards often do; 5 The guides of public opinion.

No. 92. *Illustrated Rebus.*—Very good advice.

Answers to Problems and Puzzles.

The following are answers to the puzzles in the June number, page 183. No. 186. *Pictorial Proverb.—Two of a trade can seldom agree.* No. 87.—*Illustrated Rebus.—One swallow makes not spring, nor one woodcock, winter.* No. 88. *Illustrated Rebus.—Double u in e ruins many sols;* or Wine ruins many souls. No. 89.—*Grammatical Puzzle.—Set* the rich, great and noble banquet in their halls, And pass the hours away as the most thoughtless revel.

The following have sent correct answers up to June 5th. S. H. Young and Herman J. Berg, 84; Herman S. Cook and Jennie R. Cook, 84; L. Alberson Cole, 81; John Cotton, 81, 82, 85; Robert Schofield, 81; "Harry Greenwood," 85; William Miller, 80, 84; Rachel Andrews, 81, 85; A. M. Dunbar, 81, 82; Milton D. Hudgens, 81; "Carrie," 81, 82; H. M. Shattuck, 81, 85; Isabella Curtis, 81; H. Martin Kellogg, 81; Charlotte Williams, 80; C. L. Filley, 85; "H. M. W.," 85; "C. A. C.," 85; R. L. Maxwell, 81; John Julius Weeks, Jr., 89; Annie Packer, 87, 88, 89; C. J. Wilson, 86, 87; Thomas Pond, 88, 89· Walter Henry, 84, 85· E. W. Wise, 89.

THE TIRED CHILDREN.—*Engraved for the American Agriculturist.*

These tired children are enjoying such sweet, sound sleep as only good health and innocence can give. They are so quiet that the timid rabbit is not afraid to take a near peep at them, and the little bird feels secure as he hops about close to their feet. It is certain that they love each other; notice how trustingly the girl has laid her head near her brother, and how affectionately his hand rests upon her arm. Their scanty and tattered clothing shows them to be poor. Perhaps they have wandered away from the city to enjoy the green fields and shady woods—though we can hardly suppose that; they are too plump and ruddy for poor city children. Often as we meet the thin, pale, little girls and boys that wander about the streets of New-York, we wish that they might be sent where fresh air and wholesome food would bring the roses to their cheeks, and happiness to their hearts. Probably the children in the picture belong to some laboring man, who leaves them to take care of each other while he is at his work. They have a better chance for happiness than thousands whose parents are rich enough to keep them close at home with servants to wait on them, and prevent them from doing any thing for themselves. The picture suggests a thought that may be of use to you during the warm weather now coming on. Be cautious about playing hard in the hot sunshine. Many diseases may result from becoming overheated by violent exercise. Seek the shade of the woods for your sports, or if you live on the open prairie, keep near the buildings which may afford protection from the sun. Above all let your life be so innocent that your sleep may be as quiet and refreshing as that shown in this picture.

The Boys of New York City....II.

THE SHOEBLACKS.

This class of boys, like the newsboys described in the last *Agriculturist*, meet one at all public places. If a man has not carefully polished his boots before venturing into the street, and has not also been careful to keep them unsoiled in his walk down town, he will very soon be reminded of it. "Black yer boots," "Shine 'em up sir," will be sounded in his ears at almost every corner. The little fellows have a peculiar way of saying it, that sounds very much like "What a shame to be seen walking the streets with such untidy shoe leather," or "how much better you would look if your boots were only bright;" usually they point down to your feet, and thus call your own attention and that of the bystanders to the need of their services. Although this may sometimes be rather vexing yet it is on the whole not a useless annoyance. Without doubt many a man is led to be more careful of his personal appearance, and neater in his habits, from these daily hints. Indeed the writer knows of more than one instance where the shoes are polished at home every morning to escape the pertinacity of the shoeblacks. These boys are like the newsboys, orphans, or sons of poor parents, obliged to pick up their own living. This makes them enterprising and sharp, and they soon learn considerable of human nature. A friend of the writer crossing the City Park recently, was accosted by one of them with "Black yer boots Captain," when another put in, "Let me shine 'em up *Major*," thus giving very rapid promotion to his hoped-for customer, and endeavoring to secure his patronage by an appeal to his vanity. One of them not long ago, thus brought a troublesome customer to terms. His charge was five cents, but the penurious man would offer only three. The boy undertook the job, and soon had one boot shining like a mirror, when he deliberately picked up his brushes and started to leave. "Hold on here, you haven't finished," said the man. "Oh, never mind," was the reply, "I can do better round the corner; I won't charge you anything for the one boot." The bystanders burst into a laugh at the queer fix of the man, the other boot being wofully dingy, and he was soon glad to give the boy ten cents to complete the job. The shoeblacks manage to pick up enough to feed and half clothe them; perhaps they might do more if they were prudent, but like most boys who receive a street education, most of them soon learn vices which take all their earnings, and keep them degraded. Surely the *Agriculturist* boys would not like to change places with this class. On the contrary, hundreds of these boys would think themselves happy beyond expression, could they be transported to the country, to live in such homes as you enjoy. No special effort has been made here in their behalf. In London they have been formed into a society, called the Shoeblack Brigade, in which they are encouraged by rewards and other stimulants at first, to industry and good habits.

A Walk in the Country.

What would some of our city boys and girls say to this style of taking a walk? Here they must have stone pavements laid smoothly and swept every day, for fear of soiling their shoes. They know little of the pleasure of a ramble in the fields over the green sward, or of the fun of wading the brooks when no bridge is convenient. The writer was once greatly amused at the sad dilemma of a little boy whose parents took him to spend a few weeks in the country. Shortly after they arrived, the child was heard crying by the side of the road. On being asked what was the matter, the little fellow sobbed out, "I can't find the sidewalk." Another one, who had never before seen a hill, walked with some difficulty to the top of a rather steep knoll near the house, and when about to descend, turned around and made his way down on his hands and knees, as he had been accustomed to crawl down stairs. Girls and boys in the city are often amused by the ways of their country cousins, when they visit town, but the latter find as much to laugh about in the ignorance of their town friends about farm matters. A gentleman from the city while traveling in Vermont asked a farmer how he thought he would act among the strange sights of New-York, "Why," replied the farmer, "I suppose I should *gawk* round, just as you do up here." Some of our young friends who visit their relatives in the country this summer, may do well to remember this sensible and witty reply, when tempted to laugh at them.

The Soldier Boy's Dream.

The following anecdote is related in the "Spirit of the Fair," of a German boy who was confined in one of the hospitals, from the effects of a wound received at the taking of Fort Pulaski. He said to his attendant, "I was walking alone in a great city, and came to a bridge over a deep river. As I crossed the bridge, it broke suddenly and I fell into the water and was sinking. Then *you* came to me and drew me out, and carried me to land, and I was all wet, and you were all wet, and you took me home to your *own house*, and gave me a whole new suit of clothes, dry and warm. Then I was going away, but you brought me into your garden and told me to pick any flower I liked. So I went to take a rose, and as I was picking it I died; but you called along to me not to drop the rose but to take it with me and plant it in Heaven for you. So I went to heaven and planted the flower, and it grew and blossomed, and then I sent you down word that the rose was blooming, and you died, and came up and found it there, blooming *for you*. And we were together in Heaven. It was such a pleasant dream, and I am *so* happy to-day!"

A Valued Relic.

Among the relics exhibited at the Metropolitan Sanitary Fair recently held in this City, was a torn dollar bill, which had this touching story. A clergyman called upon his congregation to contribute to the Sanitary Commission, and met a liberal response. The next day a woman who depends upon her daily work for her own support and that of her children, brought him a dollar bill to be added as her mite to the collection. Her pastor declined to take it, telling her she ought not to give so much; but the woman insisted, adding, "We've had it in the house many weeks; we can not spend it." Seeing that the bill was much torn, and supposing that she had found difficulty in passing it, her pastor said, "Oh, I'll give you a good bill for it."—"No, that's not it. It was in brother Sam's pocket when he was wounded. He's dead now, and we have his torn pocket-book; and mother said (the mother is a widow, and he was her only son), we will give that dollar to the Sanitary Commission; we can not spend it." The pastor redeemed the bill for $2.00, and now sent it to be disposed of at the Fair. Fifty dollars were at first offered for it, but this gift of two widows, of a ball-marked relic of their son and brother, yielded to the soldier's treasury double that sum, being purchased by Mrs. Astor.

A NOBLE ANSWER.—At a slave market in one of the southern States a smart, active colored boy was put up for sale. A kind master, who pitied his condition, not wishing him to have a cruel owner, went up to him and said: "If I buy you, will you be honest?" The boy, with a look that baffled description, replied, "I will be honest, whether you buy me or not."—Was not this a noble reply?

Business Notices, One Dollar per Line of Space.

THE GOVERNMENT LOAN
OF
$200,000,000.

This Loan is authorized by Act of Congress of March 8th, 1864, which provides for its REDEMPTION IN COIN, at any period not less than ten or more than forty years from its date, at the pleasure of the Government.

Until its Redemption, five per cent. interest is to be paid semi-annually IN COIN.

Subscriptions to the Loan are received by the National Banks in United States notes or in such currency or other funds as are taken by them on deposit at par.

Its Exemption from State or Local Taxation adds from one to three per cent. per annum to its value.

The Rate of Interest on this loan, although but five per cent. in coin is as much greater in currency as the difference between the market value of currency and gold.

As a Rule, the five per cent. specie securities of all solvent governments are always par or above, and currency now funded in the National Loan, will be worth its face in gold, besides paying a regular and liberal percentage to the holder.

The authorized Amount of this loan is Two Hundred Million Dollars. The amount of subscriptions reported to the Treasury at Washington, up to June 4, has been.

$67,059,850.

Subscriptions will be received by the *Treasurer of the United States* at Washington, and the *Assistant Treasurers* at New York, Boston, and Philadelphia, and by the

First National Bank of	New York,	No. 4 Wall St.
Second	"	"	23d St. & Broadway.
Fourth	"	"	27 & 29 Pine Street.
Fifth	"	"	338 Third Avenue.
Sixth	"	"	6th Av. & Broadw'y.
Ninth	"	"	363 Broadway.
Tenth	"	"	No. 240 Broadway.

Central National Bank of New-York, No. 71 Duane-st.
New-York Nat. Exchange Bank, No. 184 Greenwich-st.

AND BY ALL NATIONAL BANKS

which are depositaries of public money, and all
RESPECTABLE BANKS AND BANKERS
throughout the country (acting as agents of the National Depositary Banks,) will furnish further information on application, and afford
EVERY FACILITY TO SUBSCRIBERS.

"The Human Face Divine."—What of the Features? A long nose, a short nose, a blunt nose or a sharp nose. What does it indicate? Blue eyes Grey eyes, Black eyes; Auburn Hair, Brown Hair, Black Hair, Red Hair. Cheeks, Chins, Lips with dimples in them; what do they signify? See advertisement of the Illustrated Phrenological Journal, in another place. It is published at $2 a year by
MESSRS. FOWLER & WELLS,
339 Broadway, New York,
And now is the time to subscribe for it.

Agents Wanted

To canvass for a new book, just published.

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And mounted objects combine instruction with amusement, the useful with the entertaining. This Microscope, in brass, is mailed, postage paid, for $2 50; or with six beautiful mounted objects for $3 25; or with 24 objects for $5 50. In hard rubber, for 50 cents in addition to above prices. Address, HENRY CRAIG, 180 Centre-street, New-York.

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Contribute regularly to its pages. Hawthorne, Emerson, Lowell, Longfellow, Holmes, Whittier, and other distinguished writers, are represented in its columns. *A specimen number sent on receipt of 25 cents.* Terms—$3 00 a year, postage paid by the publishers. Liberal reduction to clubs. Address
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Doty's Clothes Washers.

The Proprietor would announce that he has got up a still better Clothes Washer, and has now located his headquarters at **19 Beekman-st., N. Y.**

As to his new **"PARAGON"** Clothes Washer, read the following *Report of the Agr'l Ed. N. Y. Tribune:*

East Yonkers, N. Y., *"Washing-day," April* 18, 1864.

"Friend Doty:—Your last improvement of your Washing Machine is a complete success. As it was before, it was the first machine that I could ever get countenanced. As it is now, all agree that it is more convenient, and washes more clothes at once than the other. A little slim girl of ten years uses it; and an invalid lady, who has to sit down to work, can wash without fatigue. You have won blessings from all the women about this house, be assured of that. SOLON ROBINSON."

Send for New Circular to WM. M. DOTY,
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LOCK STITCH

SEWING-MACHINES.

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American Agriculturist.

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Melodeons, Harmoniums, & School Organs.

Sale Agency, 543 Broadway, New-York.

These are the only instruments which have the most valuable improvements, viz.: *Divided Swell, Graduated Swell,* and *Basso Tenuto.*

Send for Descriptive Catalogue and New Price List.
CHAS. E. BACON, Sole Agent.

Harder's Threshing Machine.

Persons intending to purchase a Threshing Machine, will do well to send for a Circular of the Premium Machine, Manufactured by R. & M. HARDER, Cobleskill, Schoharie Co., N. Y. See their advertisement in June No. of *Agriculturist,*

Pyle's Soap, Saleratus, and

CREAM TARTAR, are the articles for housekeepers to buy in these times of high prices. They are put up full weight, and being *pure,* go much further in using.
ALL GOOD GROCERS KEEP THEM.

We would invite the Public to examine J. P. HALE'S NEW **$300** PIANO FORTES at No. 478 Broadway, New-York. It is seldom you find such decided and substantial improvements. He has overcome all the former difficulties, which will save the country trade a vast amount of trouble and expense for repairs, which always been a heavy tax on the public.

$250. SEVEN OCTAVE $250.

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GROVESTEEN & CO., **499** Broadway, N. Y.

New, enlarged Scale Piano-Fortes, with latest improvements.

Thirty years' experience, with greatly increased facilities for manufacturing, enable us to sell for **CASH** at the above unusually low price. Our instruments received the highest award at the World's Fair, and for five successive years at the American Institute. Warranted five years. **Terms net Cash.** Call or send for descriptive circular.

Advertisements.

Advertisements, to be sure of insertion, must be received **BEFORE** the **10**th of the preceding month.

N. B.—*No Advertisement of Patent Medicines or secret remedies desired. Parties unknown to the Editors personally or by reputation, are requested to furnish good references. We desire to be sure that advertisers will do what they promise to do. By living up to these requirements, we aim to make the advertising pages valuable not only to the readers, but to the advertisers themselves.*

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LONDON CLUB COFFEE.

This Standard Coffee is prepared from the best Old Java, and has no connection with any of the adulterations drifting about the market. It is easily distinguished from all others by its remarkable fragrance, strength, and flavor. It has been tried and recommended by the Editor of

THE INDEPENDENT.
" " " THE HOME JOURNAL.
" " " THE EVANGELIST.
" " " THE METHODIST.

Commended also by the Christian Advocate, by The Baptist Examiner, by most of the leading Editors, and by the most respectable Physicians. Nearly all prominent Journalists and Professional men are using and commending

THE LONDON CLUB COFFEE.

"We have ourselves used this Coffee," says the Editor of The Independent, "and have no hesitation in commending it as an agreeable, healthful, and every way reliable article.

From Dr. Van Kleeck.

Gentlemen: I have been using your Coffee in my family and consider it superior to any I have met with. I find it to contain only the healthiest ingredients, together with a very unusual proportion of pure Java Coffee. Having recommended it extensively in my practice, I have heard but one opinion in its favor as a nutritious and healthy beverage, and well adapted to nervous temperaments.

JAS. B. VAN KLEECK, M. D.,
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This coffee is put up for the trade in cases of 36 lbs., 60 lbs., and 100 lbs.

The price of the Club Coffee to the consumer ranges from 21 to 35 cents.

☞ **To the Trade a Liberal Discount.** ☜

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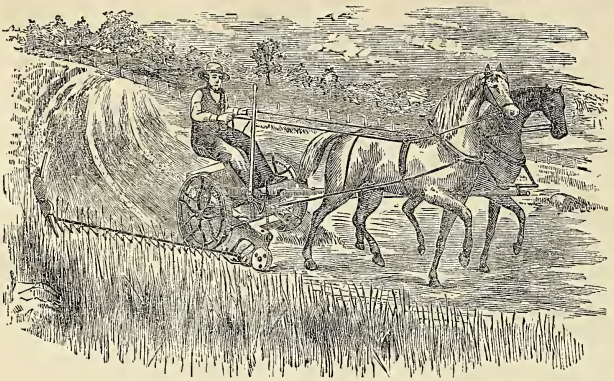

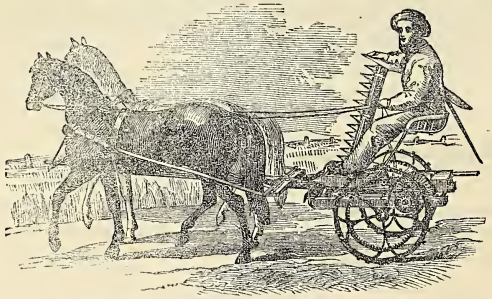

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The demand for the Union Mowing Machine has increased so rapidly for the last three years that the Union Mowing Machine Co. find it impossible to supply the great demand for the Machine, and have decided to grant licenses to manufacture and sell the Machine in all the States and Territories west of New-York, and south of Virginia, including the western parts of the States of Virginia and Pennsylvania.

Any person desirons of obtaining the exclusive license to manufacture and sell the Union Mower in any of the counties, States or Territories, as above indicated, can obtain descriptive pamphlets of the Machine, together with any other necessary information by addressing

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From the Apiary of Dzierzon, which, at the last European Bee Convention, was unanimously declared to be the ONLY apiary in Europe from which RELIABLY PURE stock could be obtained. As I have an entire apiary of this stock, bred carefully for upward of four years, and shall TEST and GUARANTEE the PURITY, FERTILITY and safe delivery of queens, when sold, purchasers may RELY upon them.

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WILL not injure the most delicate animal.
KILLS TICKS ON SHEEP.
CURES SCAB ON SHEEP.
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Cures all Skin Diseases on Animals.
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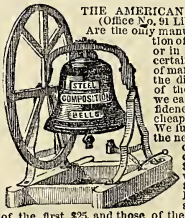

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Are the only manufacturers of this description of Bell, either in this country or in Europe—the combining of certain metals, and the process of manufacturing the same being the discovery of the President of the Company. These Bells we can commend with great confidence to the public, for their cheapness and quality of tone. We furnish a 300 lb. bell with all the necessary appointments—including Harrison's patented Self-acting Rotary, for $125, and one of 1000 lbs. with like appointments, for $244, the price for the Bells being 20c. per pound, and that of the hangings of the first, $25, and those of the latter $41. Our circulars containing full details, will be forwarded free of charge to all parties desiring the same.

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(*Opposite the Post Office,*) NEW YORK.

Cash Capital and Accumulation, over	**$1,700,000**
Claims Paid,	**900,000**
Dividends to Policy Holders,	**700,000**

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It is a Stock and Mutual combined—giving safety of management and large profits to the insured. Dividends seven-eighths of profits every three years.

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C. M. SAXTON, Agricultural Book Publisher, has removed to **No. 5 Barclay-st., New-York**, where he will be happy to see his old friends and customers.
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Address C. M. SAXTON,
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[Any of the following books can be obtained at the Office of the *Agriculturist* at the prices named, or they will be forwarded by mail, *post-paid*, on receipt of the price. All of these books may be procured in making up a library. We indicate our opinion of their value by one or more Stars.] These prices are only good for orders sent previously to August 1st.

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American Farmer's Encyclopedia	5 00
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Allen on the Culture of the Grape	1 25
Allen's (R. L.) American Farm Book*	1 25
Allen's Diseases of Domestic Animals	1 00
Allen's (L. F.) Rural Architecture.**	1 50
Barry's Fruit Garden.*****	1 50
Bement's Poultrerer's Companion.**	2 00
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Bridgeman's Young Gardener's Assistant	1 75
Bridgeman's Kitchen Garden Instructor	75
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Brandt's Age of Horses (English and German).*	50
Breck's Book of Flowers.*	1 25
Browne's American Poultry Yard	1 25
Buist's American Flower Garden Directory	1 25
Buist's Family Kitchen Gardener.*	1 00
Burr's Vegetables of America	4 50
Chorlton's Grape-Grower's Guide	75
Cole's (S. W.) American Fruit Book.*	60
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Eastwood on the Cranberry	60
Employment of Women—By Virginia Penny.**	1 50
Every Lady her own Flower Gardener	50
Fessenden's American Kitchen Gardener	25
Fessenden's Complete Farmer and Gardener	1 50
French's Farm Drainage.*	1 25
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Goodale's Principles of Breeding.**	1 00
Gray's Manual of Botany and Lessons in one Vol.***	2 50
Gray's How Plants Grow	1 00
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Hall's (Miss) American Cookery	1 25
Haraszthy Grape Culture	2 00
Harris' Insects Injurious to Vegetation, plain.**	3 50
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Kemp's Landscape Gardening	2 00
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Loudon's (Downing's) Ladies' Flower Garden.*	1 50
Leuchar's How to Build Hot-houses	1 25
Liebig's Lectures on Chemistry	1 25
Linsley's (D. C.) Morgan Horses	1 25
Manual of Agriculture by C. Emerson and C. L. Flint.	1 00
Mayhew's Illustrated Horse Doctor.***	1 50
Mayhew's Illustrated Horse Management.*****	3 50
McMahon's American Gardener.*	2 50
Milburn on the How and Dairy	50
Miles on the Horse's foot	50
Mistakes of Educated Men.**	60
My Farm at Edgewood.**	1 25
National Almanac and Annual Record.**	1 50
Norton's Scientific Agriculture	75
Our Farm of Four Acres.. (paper 30c.) bound.*	50
Onion Culture.***	20
Pardee on Strawberry Culture	75
Parsons on the Rose	1 25
Pedder's Farmer's Land Measurer	75
Phantom Bouquet, or Skeleton Leaves	1 50
Plin's Grape Culture	1 25
Quinby's Mysteries of Bee keeping.**	1 50
Randall's Fine Wool Sheep Husbandry	1 00
Rand's Flowers for Parlor and Garden.**	3 00
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Todd's (S. E.) Young Farmer's Manual.**	1 25
Tucker's Register of Rural Affairs.*	1 25
Turner's Cotton Planter's Manual	1 25
Vaux's Villas and Cottages	3 00
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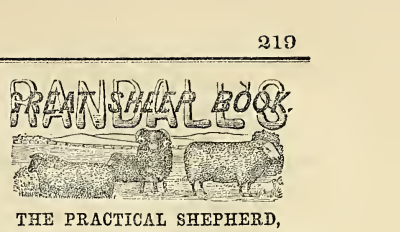

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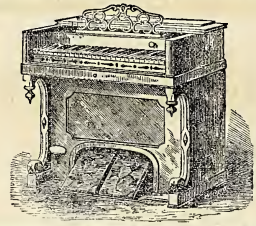

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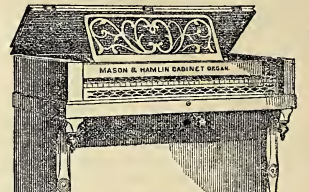

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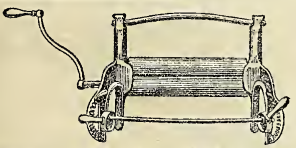

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Extending 380 miles from North to South, has all the diversity of climate to be found between Massachusetts and Virginia, and varieties of soil adapted to the products of New England and those of the Middle States. The black soil in the central portions of the State is the richest known, and produces the finest corn, wheat, sorghum and hay, which latter crop, during the past year, has been highly remunerative. The seeding of these prairie lands to tame grasses, for pasturage, offers to farmers with capital the most profitable results. The smaller prairies, interspersed with timber, in the more southern portion of the State, produce the best of winter wheat; tobacco, flax, hemp and fruit. The lands still further South are heavily timbered, and here the raising of fruit, tobacco, cotton and the manufacture of lumber, yield large returns. The *health* of Illinois is hardly surpassed by any State in the Union.

GRAIN AND STOCK RAISING.

In the list of corn and wheat producing States, Illinois stands pre-eminently first. Its advantages for raising cattle and hogs are too well-known to require comment here. For sheep raising, the lands in every part of the State are well adapted, and Illinois can now boast of many of the largest flocks in the country. No branch in industry offers greater inducements for investment.

HEMP, FLAX AND TOBACCO.

Hemp and flax can be produced of as good quality as any grown in Europe. Tobacco of the finest quality is raised upon lands purchased of this Company, and it promises to be one of the most important crops of the State. Cotton, too, is raised, to a considerable extent, in the southern portion. The making of sugar from the beet is receiving considerable attention, and experiments upon a large scale have been made during the past season. The cultivation of sorghum is rapidly increasing, and there are numerous indications that ere many years Illinois will produce a large surplus of sugar and molasses for exportation.

FRUIT.

The central and southern parts of the State are peculiarly adapted to fruit raising; and peaches, pears and strawberries, together with early vegetables, are sent to Chicago, St. Louis and Cincinnati, as well as other markets, and always command a ready sale.

COAL AND MINERALS.

The immense coal deposits of Illinois are worked at different points near the Railroad, and the great resources of the State in iron, lead, zinc, limestone, potters' clay, &c., &c., as yet barely touched, will eventually be the source of great wealth.

TO ACTUAL SETTLERS

the inducements offered are so great that the Company has already sold 1,500,000 acres, and the sales during the past year have been to a larger number of purchasers than ever before. The advantages to a man of small means, settling in Illinois, where his children may grow up with all the benefits of education and the best of public schools, can hardly be over-estimated. No State in the Union is increasing more rapidly in population, which has trebled in ten years along the line of this Railroad.

PRICES AND TERMS OF PAYMENT.

The price of land varies from $7 to $12 and upward per acre, and they are sold on long credit, on short credit, or for cash. A deduction of *ten per cent.* from the long credit price is made to those who make a payment of one-fourth of the principal down, and the balance in one, two, and three years. A deduction of **twenty per cent.** is made to those who purchase for cash. Never before have greater inducements been offered to cash purchasers.

EXAMPLE.

Forty acres at $10 per acre on long credit, interest at six per cent., payable annually in advance: the principal in four, five, six, and seven years.

	INTEREST.	PRINCIPAL.
Cash payment	$24.00	
Payment in one year	21.00	
" two years	24.00	
" three "	21.00	
" four "	18.00	$100.00
" five "	12.00	100.00
" six "	6.00	100.00
" seven "		100.00

Or the same farm, on short credit:

	INTEREST.	PRINCIPAL.
Cash payment	$16.20	$90.00
Payment in one year	10.80	90.00
" two years	5.40	90.00
" three "		90.00

The same farm may be purchased for $320 in cash.

☞ Full information on all points, together with maps, showing the exact location of the lands, will be furnished on application in person or by letter to

LAND COMMISSIONER,
Illinois Central R. R. Co., at Chicago, Ill.

Wm. H. RANLETT, Architect.
Hohokus, Bergen County, N. J.

Prairie View Farm For Sale.

For sale, a beautiful farm of 160 acres, situated near the Fox River in the town of Oswego, Kendall Co., Illinois, 3½ miles from the station on the Chicago, Burlington and Quincy R. R., 2½ from the village of Oswego, and 6 from the city of Aurora. The improvements are all permanent and particularly well adapted to stock purposes. A well furnished house, and large barn with stabling for 50 cattle. A thrifty Apple orchard, Peach, Plum, Pear and Cherry trees, both dwarf and standard; also all the small fruits with a good variety of grapes, most of the above in bearing. A fine Durham stock, horses, tools and household furniture will be sold with the farm if desired. For further particulars address the subscriber at Oswego, Ill.

P. PORTER WIGGINS.

To Settlers Seeking Location on MARYLAND FARMS.

2,800 Acres in 7 farms all adjoining, located in Charles County, 18 miles from Washington City. Upon each farm are good Dwellings and out-buildings, the land is of clay loam and very productive in Tobacco and Fruit, price in the aggregate, $26 per acre. For a healthy and profitable settlement with choice of neighbors this offers the best of inducements. For sale by R. W. TEMPLEMAN & CO., Baltimore City, Maryland.

---

150 to 200 Rocks dug in 10 hours.

A new Machine for digging and drawing Rocks, laying Wall, &c. Please send for Circular, to

G. L. SHELDON,
New Marlboro, Berkshire Co., Mass.

INGERSOLL'S IMPROVED
HORSE AND HAND POWER

HAY AND COTTON PRESSES.

These machines have been tested in the most thorough manner throughout this and foreign countries to the number of over 1200.

THE HORSE POWER is worked by either wheel or capstan, and in many respects possesses unequalled advantages. We invite those wanting such machines to write for a catalogue containing full information with cuts, prices, &c., or call and examine personally.

Orders promptly attended to, by addressing
INGERSOLL & DOUGHERTY, Greenpoint, Kings Co., L. I.

Allen's Clipper Mowing Machine.

Pony and two horse sizes. Very light draft and weight, and particularly well calculated for cutting salt and fresh water meadows and lawns, as well as rough uplands.

R. H. ALLEN & CO.,
189 & 191 Water-st., New-York.

Beardsley's Premium Hay Elevator.

Persons wishing to act as Agents for the sale of the BEST ELEVATOR in use, will please apply to

GRIFFING BROTHER & CO.,
60 Courtlandt-st., New-York.

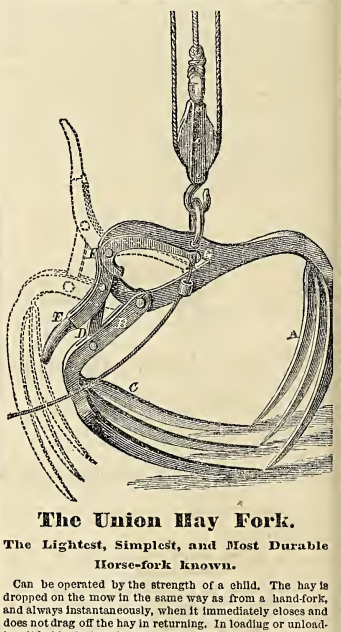
Palmer's Horse Hay Fork.

The best unloading fork in use.
PRICE COMPLETE, $13.
For sale by R. H. ALLEN & CO., Sole Agents,
189 & 191 Water-st., New-York.

PRATT'S PATENT STEEL TOOTH HAY and GRAIN RAKE.

"THE FATHER OF THE FIELD."

Price $40. Sold at head quarters.
GRIFFING BROTHER & CO.,
60 Courtlandt-st., New-York



The Union Hay Fork.

The Lightest, Simplest, and Most Durable Horse-fork known.

Can be operated by the strength of a child. The hay is dropped on the mow in the same way as from a hand-fork, and always instantaneously, when it immediately closes and does not drag off the hay in returning. In loading or unloading, it holds the hay firmly so that it will not scatter. It can easily be repaired by any blacksmith.

Town, County and State Rights, with full sized model forks for sale by RENSSELAER REYNOLDS,
Stockport, N. Y.

AMALGAM BELLS.

Amalgam Bells,

At prices within the reach of every Church, School, Cemetery, Factory, or Farm in the land. Their use throughout the United States and Canadas for the past six years has proven them to combine most valuable qualities, among which are TONE, STRENGTH, SONOROUSNESS, and DURABILITY OF VIBRATION, unequalled by any other manufacture. Sizes from 50 to 5000 lbs., costing TWO THIRDS LESS than other metal, or 15 cents per pound, at which price we warrant them two years months. Old bell metal taken in exchange, or bought for cash. Send for a Circular to the Manufacturer.

JOHN B. ROBINSON,
No. 190 William-street, New-York.

AMALGAM BELLS.

SOMETHING TO DO.—"PLEASANT AND PROFITABLE." Good Books, ready sales, and good profits. Agents wanted. Address with pre-paid envelope for answer, FOWLER & WELLS, 389 Broadway, New-York.

Sanford & Mallory's

FLAX AND HEMP DRESSERS

are no longer an experiment. Over 200 No. 1 Brakes have been sold and are in

PRACTICAL USE.

A pamphlet will be sent free of charge by writing,

JOHN W. QUINCY, AGENT,
No. 93 William-st., New-York.

TESTIMONIALS.

SPRING MILLS, N. J., April 4th, 1864.

Messrs. Mallery and Sanford:

GENTS.—I have been using one of your No. 2 Patent Flax Machines or Brakes for the last six months, and am much pleased with the manner in which it breaks the flax. We can break easily one and a quarter tons of flax straw per day, and do it much better than a new flax brake I saw the other day which cost eight hundred dollars, and had sixteen pairs of rollers.

Yours respectfully, AUGUSTUS GODLEY.

SOUTH HILL, Pa., April 5th, 1864.

Messrs. Mallory and Sanford:

GENTLEMEN,—I have been using one of your Patent Flax Brakes for the past five months, and am well pleased with its work. All who have seen it work pronounce it JUST THE THING. I have tested it with the old-fashioned brake in general use and yours has the advantage of over ten per cent.

Yours respectfully, E. T. ALLIS.

SPARTA, Canada East, 5th April, 1864.

Messrs. Mallory and Sanford:

GENTLEMEN,—It is with great pleasure that we comply with your request in giving our opinion of your Patent Flax Brake. We have had it in constant use since last fall and it does its work admirably. For ingenuity of construction, simplicity of working capacity, and safety to the operator we have not yet seen its equal. Requiring but little power to drive it and no other attention but an ordinary hand can give it, we are quite satisfied that it is all you represent it to be. We are, gentlemen, yours respectfully,

SCARDETT & BOGGS.

DANVILLE, Livingston Co., N. Y.

Mallory and Sanford:

GENTLEMEN—You ask my opinion in regard to your Flax Machine. I must say I am well pleased with it. The Machine has been in almost constant use since I received it from you about three months since, and I think it works better now than when I first started it. I can break from one to one and a half tons per day of ten hours with your No. 1 Brake. I think I will get another of your Brakes this summer. Yours, with respect, E. TRAXLER.

BREAKABEEN, N. Y., April 25, 1864.

Messrs. Mallory and Sanford:

GENTLEMEN,—I have been using one of your Flax Brakes the past winter, and have been so well pleased with its work that I have purchased another Machine and thrown our old brake out entirely. One of the principal advantages over the old brake is that it breaks the flax even all through the handful, so that the inside of the handful will scutch as easy as the outside, and leaves the outside fibre of the handful whole, whereas with our old brake the inside of the handful would be so imperfectly broken that the outside will be all cut down to a point before the centre is clean; we can break more with your Brake than with our old one, and can scutch more flax taken from your Brake than the old one, and there is no danger from operating your Machine. I consider your Machine a great success. I do not know how you could well improve the principle upon which it moves.

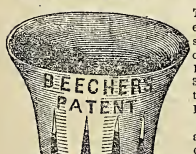
Yours, truly, G. L. HUGHSON.

KIRBY'S MOWER, CLIPPER and COMBINED MOWER and REAPER with all the improvements for 1864. Sold by GRIFFING BROTHER & CO.,
60 Courtlandt-st., New-York.

Send for Circular.

CIDER PRESS SCREWS.—Five feet long, four inches in diameter. These powerful screws bring out a third more juice than portable presses. Send for a circular. Made by L. M. ARNOLD Poughkeepsie (N. Y.) Foundry.

Fruit Baskets for 1864.



To any or all fruit growers and dealers we respectfully recommend our improved FRUIT BASKET, Patented May 31st, 1864, and known as the **Veneer Fruit Basket.**

Circulars of description and price will be furnished on application to us.

A. BEECHER & SONS,
Westville, Conn.

Also for sale by W. H. Carpenter, 90 Vesey-st., New-York.

Turnip Seeds by Mail.

The following varieties will be mailed post-paid to any address in the Union upon receipt of prices affixed.

10 *cts.*	30 *cts.*	50 *cts.*	75 *cts.*
1 ounce.	4 ounces.	8 ounces.	1 pound.

Early Dutch, Snowball, Red Top Strap Leaf, White Top Strap Leaf, White Globe, White Norfolk, Yellow Aberdeen, Yellow Finland, Robertson's Golden Ball, Orange Jelly, Tellau or small Berlin, Long White French, White Tankard, Long White or Cow's Horn, Waite's Eclipse, Dale's Hybrid, Laings's Improved Ratabaga, Skirving's do., Stubble Swede. Also Chinese Winter Radish.

25 *cts. per ounce.*

Winter Spinach, same price as turnip seed. Please address **B. K. BLISS, Springfield, Mass.**

DELAWARE VINES
AT
LOW PRICES.

PLANTERS, who are forming Vineyards,
and
NURSERYMEN, who wish plants for stock,

will find it their interest to examine the one year old plants of

PARSONS & CO.,

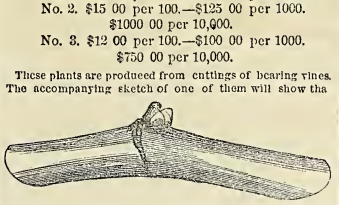
Of which they offer

200,000

At the following low prices:

No. 1. $25 00 per 100.—$200 00 per 1000.
No. 2. $15 00 per 100.—$125 00 per 1000.
$1000 00 per 10,000.
No. 3. $12 00 per 100.—$100 00 per 1000.
$750 00 per 10,000.

These plants are produced from cuttings of bearing vines. The accompanying sketch of one of them will show tha



they are not the mere straws so often employed, but mostly of large size. They are so grown as to ensure an abundance of fibrous roots and thoroughly ripened wood.

The testimony of those who have purchased them for the last two years is of the most favorable character.

In consequence of the low price, their stock of Delawares has for two years been bought up early in the autumn by a few persons. The proprietors wish them more widely scattered, and hope therefore, that those who desire to purchase, will send their orders early.

In consequence of the great difficulty in growing the Delaware the first year, nurserymen will find it their interest to purchase largely to plant for stock.

The Proprietors can also furnish

100,000

other **HARDY GRAPES**, including **Concord, Diana, Creveling, Iona, Allen's Hybrid, Adirondac**, and other new sorts.

Address
PARSONS & CO., Flushing, N. Y.

Hot Water Furnaces

for Warming Green-houses, Conservatories, Graperies, &c.

WEATHERED & CHERVOY, 117 Prince-st., New-York

PATENT

Indestructible Label for Fruit Trees, Flowering Shrubs, Roses, &c.

The attention of Amateur Fruit Growers and Nurserymen is invited to this useful article which has received the approval of many of the leading Horticulturists in the country. Their cheapness, durability and neatness of design render them essential in every well conducted Garden, Orchard, or Conservatory, in any climate, not being in any way affected by heat or dampness.

The cut, with a word or two of explanation, will render this useful invention perfectly clear to the reader. The edges of a circular zinc back, are turned over the edge of a mica front, between which the label, printed on paper, is placed, and shows through the mica in front of it as clearly as through glass. By the aid of a little cement, the whole is rendered impervious to water, and forms an indestructible, neat, and always legible label.

A sample label, with a list of the varieties constantly on hand, will be sent to any address in the Union on the receipt of two three cent postage stamps.

Price 50 cents per dozen, $3 per hundred.

The names of varieties not included in the list, will be furnished to order at an additional charge of $1 per hundred.

Address B. K. BLISS, Springfield, Mass.

Seeds for Summer Sowin .

Buckwheat. Millett.

Corn, for Soiling.

White Flat. White Globe.
Long White. White French.
Yellow Stone. Yellow Aberdeen.

Yellow Swedish and New Red Top White Swedish Turnips—all fresh and of finest quality, for sale in quantities to suit purchasers, by R. H. ALLEN & CO.,
189 & 191 Water-st. New-York City.

STRAWBERRIES.

"Agriculturist." The prize berry of America.

Having secured a part of this stock before the editor of the Agriculturist had made arrangements to control the stock of plants of this variety, I am now prepared to take orders to commence delivering plants in August, in rotation as ordered. After another year's trial, it proves to be by far the most productive as well as the largest variety known. Price, 2 for $1 20; 6 plants for $3 00; $5.00 per doz.; or $35.00 per hundred. ($150.00 was offered and refused for a single plant of this variety last summer.)

The following ten are French and Belgian varieties; these have been tested and found to be eminently valuable.

Exposition d' Chalons, Extra.
Lucas, Extra, Extra monstrous size.
Monstrous Hautbois, Very large.
Chili Rose, Large white, rosy cheek.
Frogmore Late Pine, Very large and fine.
La Delicieuse, Extra.
Madame Colloque, one of the best.
Orh, a splendid variety.
La Negress, very large, color black.
Quinquefolia, very fine.

Plants $1 per doz., or the ten varieties, one doz. each, $8.00

The following 4 varieties were selected last year from all the new prize seedlings of France and Belgium. A limited number can be supplied at $2.50 per dozen.

Bijou, (Raised by de Jonghe.)
Lucida Perfecta, " Glede.
Haquin, " Haquin.
Souvenir de Kieff, " de Jonghe.

Also the Tribune Prize Strawberries, Seedlings by A. S. Fuller. Three varieties, for which $3000 was paid. Monitor, Col. Ellsworth, and Brooklyn Scarlet, $1 per doz., or $5 per hundred.

Robinson Seedling. A new variety promising well. Progress, French's Seedling and Buffalo Seedling, at $1 per doz.

Imperial Monthly, a new variety from Australia, bearing a heavy crop every month until frost, fruit large and fine, a great acquisition; plants $2 per doz., or $10 per hundred.

The following four varieties are white berries, and eminently valuable; fruit very large and fine

Albion, Lenning's White, Pineapple, and Deptford White, 75 cts. per doz., or $4 per hundred.

Having a very large stock of Russell's Prolific, I will sell the plants for 50 cts. per dozen., $2 per hundred, or $15 per thousand. La Constante, 50 cents per dozen; or $3.00 per hundred. No orders taken for less than a dozen plants of any variety, except the "Agriculturist." Address all orders to WM. S. CARPENTER, 329 Greenwich-st., New-York.

THE ATTENTION OF DEALERS, AGENTS, and retail buyers, is called to a tremendous stock of Fruit Trees, offered at low rates, all first class stock; will be carefully packed and forwarded to any point. A rare chance will be offered to any one going into the business, or wanting to purchase stock to retail. The whole or half of the stock will be sold at a low figure. Address I. B. WILSON, Washington, Washington County, Penn.

BONE TAFEU.

Manufactured by the Lodi Manufacturing Co., from BONES, DRIED NIGHT SOIL and guano ground fine.

The Bone is well known for its lasting effects, and the night soil and guano for their quick action, the combination producing a fertilizer EQUAL to guano, and far superior to Superphosphate or ground Bones. Farmers using it during the past two years, speak of it in the highest terms. Price $45 per ton. Packed in bbls. of 200 lbs. each.

Address LODI MANUFACTURING CO.,
66 Courtlandt-st., New-York.

TO FARMERS

AND OTHERS.

We are manufacturing a Genuine Article of VERY FINE **BONE DUST**, and **RAW BONE SUPERPHOSPHATE OF LIME**, manufactured from unburned Bones, containing all the Animal and Chemical Fertilizing Properties. Please address the Manufacturers, and get the Intrinsic Value of your money.

N. B. A Liberal Discount made to Dealers for Cash,

Address A. LISTER & BRO.,
Newark, N. J.

Bruce's Concentrated Manure.

Those who have used the above valuable fertilizer the past year, give it the preference over

No. 1 Peruvian Guano, Bone, or Poudrette.

In the year 1862, some **fifty tons** were sold. Last year orders came in to the amount of **four hundred tons**, only half of which could be filled. This year we shall manufacture **ONE THOUSAND TON**

Its "component" parts are:

40 per cent. of Animal fibre and Blood.
40 per cent. of pure Ground Bones.
20 per cent. of Absorbents.

The absorbents are Charcoal and Gypsum.

Price **$45 Per Ton**, packed in barrels 250 lbs. in **each.**

Send for Circular. Send your orders to
GRIFFING BROTHER & CO.
58 and 60 Courtlandt-st., **New-York.**

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The Agriculturist Strawberry on Sale—Explanation.

It will be seen that plants of this strawberry are advertised for sale, in this month's paper and elsewhere. It was the wish and original intention of the Proprietor, that no plants should be sold, but that they should belong exclusively, at first, to the "*Agriculturist* family." Some plants, however, were sold by Mr. Boyden before Mr. Judd attempted to secure them. All of these he bought up, except one single plant, which could not be had at any price, but the owner, Mr. Carpenter, generously promised to withhold it from the public until our distribution commenced. This one plant has been carefully cultivated and multiplied during the year, and its product, and this only, is now offered. If others offer plants of the same variety the present summer, they must be obtained from one of these sources or be spurious ones.

Mr. Judd's plants were placed under the care of his skillful gardener, Mr. Olm, who has earnestly watched over them almost night and day for a twelvemonth.

As a stimulus to continued extra exertion, on the part of Mr. Olm, and as the plants are to go into market, and also because many are begging the privilege of getting more plants than they are entitled to by subscription, we have written to Mr. Judd, and obtained his consent to the following plan:

Mr. Olm is to push forward the work, and at the earliest moment supply a good, strong plant to every actual old or new *subscriber* for this year, who has applied or may apply for them on the previous terms, (viz., the year's subscription, and 5 cents extra for postage on the plants.) This will *first* be carefully attended to. After this is done, the plants remaining will be sold to those first applying for them, at the following rates:

For one good, strong plant	-	-		75 cents.
For two " " "	-	-		$1 20
For six " " "	-	-		3 00
For twelve " " "	-	-		5 00
For one hundred " "	-	-		25 00

Sent post-paid when desired so.

An interest in the sale will be given to Mr. Olm, who will thus be rewarded for his past exertions, and stimulated to the utmost care and effort to get all subscribers well supplied at an early date.

The recent severe hail storm, the hardest ever known here within our memory, badly injured the fruit, and cut the plants somewhat, yet they are very vigorous, and not one was lost during the winter, though part of them were entirely unprotected. There is now every prospect that there will be enough to supply all our subscribers in August and before the close of September. We shall be gratified at this. Anything realized from sales will go towards helping out the great expense incurred in the purchase, care, and distribution, and in meeting the great advance in cost of printing paper, etc.

Orders accompanied by money will be filled on the above terms in rotation. It will doubtless be practicable to meet every person's requisition in time to get them well started this year. Of the great value of this new variety something is said in another article.

The distribution to subscribers will begin in August, as soon as the weather will admit. From the sixty plans for boxes sent in, the best has been selected, as noted elsewhere, and every plant going by mail will be protected from injury in a neat box. Directions for planting and multiplying, will be given in the August number.

Strawberries for All Applicants.

When the special premium of the *Agriculturist Strawberry* was announced, promise was made, that they should be distributed to all as rapidly as the increase by propagation would allow, in the order in which subscribers' names were received. The severe drouth of last summer greatly retarded multiplying the plants, so that at one time it was doubtful whether enough could be obtained to supply the unprecedented large number of subscribers the present year. But the favorable season this spring enables us to announce that there will be plenty for all comers, up to the **100,000** subscribers that we have already nearly registered on our books.—(A little effort on the part of our friends this month will complete the number.) We give this repetition of the above notice, in answer to numerous letters of inquiry, from those who have not seen previous announcements.

The Agriculturist Sanitary Fund.—Owing to the continued absence of Mr. Judd, we do not undertake to give an acknowledgement of the several sums contributed through this office for the soldiers. Please read Mr. Judd's letters, and from them gather some idea of what is *done* with the money. No doubt hundreds of lives are saved every week by these ministrations, while the amount of relief and comfort given is incalculably great. Let all who have not had other opportunities to give all they could for this noble purpose, still continue to forward their contributions. Who will not cheerfully forego something of present comfort and luxury, in order to have a direct part in the noble work of nourishing, feeding, clothing, and otherwise comforting our wounded brethren in the Camps and Hospitals?

To Buyers of Books.—Paper and all book making materials have such an upward tendency that the price of books has correspondingly increased. The prices named in our book list are from necessity revised each month, and they hold good only for orders sent during the month in which they are published.

The Barometer Again.—Several inquirers. We have stated, and repeat again that it makes no practical difference whether the barometer is in or out of doors, or in a room with or without a fire.

Back Volumes & Numbers Supplied.

We have complete sets of Vols. 16, 17, 18, 19, 20, 21, 22, both unbound, and bound in neat covers with gilt lettered backs. Prices at the office: *bound* $1,50, *unbound* $1,00 each. Back Volumes are sent prepaid by mail, (*they can not go unpaid,*) *if bound*, $2.00 each; *if unbound*; $1,24 each. Single numbers of any of the above Volumes, 10 cents each.

Binding.—Sets sent to the office will be bound up neatly (in our regular style of binding) for 50 cents a volume.

PREPARED COVERS.—Covers for binding, neatly made, with title, etc., gilt upon the back, ready for the insertion of the sheets by any bookbinder, can be furnished for Vols. 16, to 22 inclusive, at 25 cents per cover. *Covers can not go by mail.*

CLUBS can at any time be increased, by remitting for each addition the price paid by the original members, if the subscriptions all date at the same starting point. The back numbers will of course be sent to added names

Postage on the Agriculturist is only **3** cents per quarter, if paid in advance by the recipient. Any postmaster who charges over 1 cent per number, when paid quarterly or yearly in advance, is either too ignorant to hold office, or is guilty of extortion. We ask subscribers to send to us the name of any one who exacts more than the above postage.

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For the Farm, Garden, and Household.

A THOROUGH-GOING, RELIABLE, and PRACTICAL Journal, devoted to the different departments of SOIL CULTURE—such as growing FIELD CROPS; ORCHARD and GARDEN FRUITS; GARDEN VEGETABLES and FLOWERS; TREES, PLANTS, and FLOWERS for the LAWN or YARD; care of DOMESTIC ANIMALS, etc., and to HOUSEHOLD LABORS, with an interesting, instructive department for CHILDREN and YOUTH.

The Editors are all PRACTICAL WORKING MEN.

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ORANGE JUDD, **41** Park-Row, New-York City.

AMERICAN AGRICULTURIST,

FOR THE

Farm, Garden, and Household.

"AGRICULTURE IS THE MOST HEALTHFUL, MOST USEFUL, AND MOST NOBLE EMPLOYMENT OF MAN."—WASHINGTON.

ORANGE JUDD, A.M., EDITOR AND PROPRIETOR. Office, 41 Park Row, (Times Buildings.)

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VOLUME XXIII—No. 8. NEW-YORK, AUGUST, 1864. NEW SERIES—No. 211.

Entered according to act of Congress in the year 1863, by ORANGE JUDD, in the Clerk's Office of the District Court of the United States for the Southern District of New-York. ☞ Other Journals are invited to copy desirable articles freely, *if* each article be credited to *American Agriculturist.*

American Agriculturist in German.

Each number of this Journal is published in both the English and German Languages. The two Editions are similar, and contain, as nearly as possible, the same Articles and Illustrations. The German Edition is furnished at the same rates as the English, singly or in clubs. A club may be part English, and part German.

Notes and Suggestions for the Month.

The sun enters the sign Virgo, in August. The constellation of the Virgin is not particularly conspicuous in the heavens. In its course the month usually gratifies the husbandman with copious and refreshing showers, and this the artist may have in view when he represents the farmer maid as the bearer of refreshments to the weary workers in the field.

It would be very remarkable if the drouths which have so seriously damaged the crops in many sections of our country, should continue during the present month. The total amount of rain which falls over any extensive region, is very nearly the same year after year. The smaller the region the less accurately does the rain-fall correspond, one year with another, or one month with the same month of another year. Our first reports of drouths, and of any wide spread damage to crops, are always exaggerated. We hear first from those sections where the damage is most severe, and it is the interest of a certain class of the mercantile community to magnify such reports and increase the fears that the crops will be short in order to secure an advantage in their speculations. The dryness of the months of June and July, up to the time of our going to press, though no doubt exaggerated, leads us to consider how best at the 1st of August, to counteract the effects of drouth.

It is too late to sow cereal grains, except millet and buckwheat, the former being sowed for fodder. It is not considered advisable, however, to sow millet so late as the first of August. In case it is very desirable to have an addition to the available grains, buckwheat *may* be sown with winter wheat in August, and cut before frost. The wheat is said to receive but little damage; for after the buckwheat is cut, it has still 4 or 6 weeks of good growing weather. Turnips are, however, the great staff and stay to fall back upon. Sown the first week in August, the probabilities are in favor of a fair crop. Sown a week later than that, the crop will probably still prove remunerative, if the soil be good, if insects do not interfere, and if severe freezing weather holds off. The amount of food which may be raised upon an acre of good ground after the first of August is great, amounting to between 250 and 400 bushels per acre. It is hardly worth while to sow rutabagas after July, for their growth is slower and they can not be expected to mature sufficiently to make a profitable crop, though if they do fill out they make an excellent table vegetable.

Before the end of July, if the weather has proved favorable, the great bulk of the hay and grain crops of the country will have been secured, hoed crops will have advanced so that hoeing will be of no advantage, and farmers will have a few weeks of comparative leisure. This should be conscientiously embraced, and used to promote health of body and mind. This too close "sticking to work," shortens the lives of many farmers. Recreation of some sort is a genuine life insurance. The drying of the soil, the subsidence of water in the swamps, and the drying of wells and springs in the midst of a drouth afford opportunities for planning for drainage and irrigation, observing levels, digging muck from holes and sinks, and ditching in low land not otherwise accessible, which ought not to be neglected. All these things will occur to a wide-awake farmer, and though lack of "help" may prevent his carrying out his plans, still plans for future labor, in time may be so well matured, being viewed in all their bearings, that much labor will be saved when he really comes to execute the work thus thought over.

Work for the Farm, Barn, and Stock Yard.

As the season advances, farmers will be able to estimate the quantity of produce they will have at disposal. Prices are likely to fluctuate so much that it will be impolitic to contract far ahead, to deliver produce. The best way will be to sell at the market price at the time of delivery—every other course will create dissatisfaction. The demand for all kinds of produce will be almost limitless, at very good prices.

Buildings.—The sheds and stables for stock of all kinds, especially for such as are to be fatted during the fall and winter, should be looked to at this season—renewed if necessary, made tight and comfortable, ventilation provided, and painted if they need it. Straw sheds and straw roofed sheds (see article in January *Agriculturist*) may be most easily made at threshing time.

Buckwheat may be sown even so late as the 15th of the month, south of lat. 41°, with reasonable hopes of a crop. If you get any crop it will probably be a very good one, for buckwheat fills plumper the later it is in the season. The risk is from the occurence of early frosts.

Butter.—The butter yield may be essentially increased by feeding oil-cake meal in moderate quantities. At present prices at home, and the ready market it finds abroad, every ounce of butter made, should be of quality fit for export.

Cattle.—It is important to keep all kinds of cattle in good flesh; if they lose fat at this season it will be hard to regain it so that they will begin the winter in good condition. Give salt, and look to the water in the pastures, not only to have it there, but that stock have *good* water.

Cheese Making.—See article on this subject (p. 235). The production of this excellent article of food ought to be greatly increased, and in the heat of summer it is usually more profitable to make cheese than it is to make butter.

Corn in the field should be let alone after this season—even if it blows down, let it right itself. Keep the fowls out of the field. Sweet corn forms a delicious addition to our table vegetables, and as it matures in succession, it should be dried for winter use, taking care not to let it get too old and tough before picking.

Draining.—There is much land which may be drained at this season, but at no other. This work should be pushed forward as the rains may fill the low lands any day. If labor can be obtained for the purpose, go also into the thorough draining of uplands—it pays.

Fallows are relics of the agriculture of a former generation, and fast becoming obsolete as they ought to be. The best fallowing decent land can have, is a crop of roots. No man ought to take from land more than he gives to it. The whole object of the fallow is to enable men to *skin* the land more effectually. Let no land that is good for anything lie idle. If it needs fallowing, put on turnips in drills and plow and hoe them; or plow in growing buckwheat.

Fences.—Do not let them harbor weeds; dispense with every rod of fence possible, but maintain those that must stand, in good order.

Grain Fields are apt to be full of foul weeds ready to go to seed. Glean thoroughly with a horse rake, and it will often pay to rake in two directions, if the stubble is long, and feed the gleanings to the hogs or poultry; then burn over the stubble so as to kill the weed seeds.

Grass.—August is probably the best month in the year for manuring grass lands. Apply fine manure of any kind, soon after mowing.

Hay.—Push forward the haying with all dispatch, for the grass is generally injured by delay.

Horses.—Let them stand when not in use, in dark but airy stables during the day, and turn them into the pasture at night. This will be grateful to them, and they will keep in much better condition, and secure freedom from bots.

Irrigation.—See article on page 226. Make this subject a study. The sources of water are streams, ponds, springs, and wells. The last two of course, yielding usually but a small supply. The water may be conducted by following the exact level of the source to parts of the farm, where it will be quite surprising to find that it will run.

Manures.—Push forward the compost heaps, using every available material. The manure accumulating at the stables may very profitably be used in making compost. Salt hay, sods, weeds, and muck constituting the bulk of the heap, the manure being spread in layers so as to get up a uniform heat by its fermentation. See article, p. 234.

Meadows.—Put a greater breadth in order for the mowing machine, by sinking rocks, clearing off stones and stumps, leveling hummocks, etc.

Oats.—Cut as soon as the grain in the latest heads becomes plump, and may be rubbed out in the hand, but before there is danger of the ripest shelling. It is not desirable to have the grain get too ripe, as the straw is worth less for feeding.

Pastures.—When cattle droppings accumulate on rich pastures, scatter them with a maul. Mow and burn weeds before the seeds ripen. Suffer no pieces to be too close fed. It often pays to run a mowing machine over the pastures to cut the tall wiry grass which may have been left by the cattle, and this gathered by the horse rake, makes a good addition to the stock of bedding or to the compost.

Potatoes.—Unless the ground can be occupied by other crops, do not dig potatoes early, except for marketing. Turnips may well be sown after early potatoes are removed, unless winter grain or grass is to follow. Don't give up the land to weeds.

Poultry.—Allow them the range of the grain fields after harvest. Those of sufficient age will fatten as readily now as later, and bring better prices. Feed greens of some kind to all confined in yards. Whitewash the poultry houses, grease the nests and roosts. A little calomel in the ash-box in which the fowls dust, is said to destroy lice.

Root Crops.—Keep the soil loose, open and free from weeds; thin out freely.

Sheep.—Tar the noses of all to repel the fly. (See article on page 239.) Separate the rams from the ewes; wean the lambs and give them a good chance by themselves if possible. Keep ewes that have lambs unfit to wean, with the lambs, and in small flocks let the yearlings run with them. After taking a ewe from her lamb, examine her udder, and milk her if there is any danger of caked bag.

Swine may be put upon a diet of peas, feeding the unthreshed vines. There are few, it is likely, who have old corn to begin feeding with this year. Get hogs in as good condition as possible before you begin fattening in earnest with corn. Make preparations to cook the feed where it is practicable.

Timber.—Cut for building and fencing purposes; peel and lay up under cover to season.

Turnips.—Sow the Purple-top Strap-leaf variety on any land not otherwise occupied, the less seed used to the acre the better, as a rule—1 pound is enough. It may be mixed with sifted loam, plaster, or bone dust, to secure an even east, and in case it comes up too thick, the ground may be gone over with a loaded harrow, having half the teeth out. This leaves the turnips in rows, and stirs the soil well also. Do not put turnips on land you want for corn next year. Corn does not do well where turnips were raised the year before.

Winter Grain.—Wheat may be sown to good advantage after the 20th, if the weather is favorable.

Orchard and Nursery.

The harvest from the orchard begins this month. Early apples, pears, and peaches are to be gathered and marketed, and, as with all other fruit, the price will greatly depend upon their condition when they reach the market. Peaches and pears should be gathered when ripe, they will be in eating condition by the time they soften. If reach the consumer. Let all baskets, crates and other marketing packages be plainly marked with both the name of the owner and the person to whom the fruit is consigned. If it is desired to establish a good market reputation, let the parcels go without topping, but of uniform character from top to bottom. Endeavor to have your name carry with it the guarantee of honest dealing. Where there is a surplus, do not let it go to waste, but dry or put up in cans for winter use, and for hospitals. Trees should never be so overloaded that the limbs need support, still if thinning has been neglected, the branches should be prevented from breaking down by props of some kind.

Budding.—See illustrated article on page 228.

Evergreens.—If to be removed a short distance it can be successfully done this month, if care is taken to keep the roots from drying. Transplant on a cloudy day, taking up a good ball of earth on the roots. Fill the holes with water and let it soak away, before setting the trees, and fill up with good soil.

Insects.—Borers lay their eggs now and the grub soon works into the tree; probe him out. A smearing of soft soap around the base of the tree will be serviceable. Break up late nests of caterpillars.

Layers.—The growth of this year of shrubs and stools is now ready to layer. Spade and manure the ground, in order to induce roots to start promptly, and peg down the branches deep enough to be below the reach of the dryness of the surface.

Pruning.—Better do it this month than leave it until winter or spring. See last month's Calendar.

Seedlings.—The beds need shading as heretofore directed; keep the weeds out and stir the soil between the plants. Water if the plants are suffering.

Seeds.—Gather those of fruits and shrubs as they perfect and sow at once or keep for spring sowing, putting in sand, to prevent excessive drying.

Thinning.—If this has not been already attended to, it may be done on late varieties with benefit.

Water.—If trees set this spring are suffering from drouth, remove the surface soil, give a copious watering, let it soak away, and replace the earth.

Weeds.—Clean tillage is required in both orchard and nursery. Keep the weeds down in the rows as well as between them. The bare spaces left around trees in orchards laid down to grass, should be kept clean, and not be allowed to grow up to weeds.

Kitchen Garden.

Now comes the harvest. Almost all that has gone before has led up to the present realization of fresh vegetables every day, a blessing which the dwellers in cities can not enjoy. Who ever tasted green peas in New York? There are things sold called peas, but they are mealy grains, with tough skins, but entirely lacking in the delicious sweetness which belongs to the real thing. With peas, as with all other fresh vegetables, there should be but a short interval between the garden and the pot. Those who have followed our teachings, no matter how humble their condition, are enjoying luxuries which all the wealth of dwellers in cities can not buy. He who has a garden not only rejoices in the things which appear upon his table, but he has often a supply to sell to the less provident. If produce is to be marketed let it be gathered late in the afternoon, loaded overnight, sprinkling those things which wilt, and arrive at the market at the earliest hour the next morning. Farmers who live within a short distance of towns and villages will find it to their profit to gradually extend the culture of garden vegetables, and to leave the raising of large grain crops to those who are at a distance from market.

Asparagus.—The growth of tops should now be encouraged, as they are accumulating material for next season's crops. If seed is wanted for new beds, the most vigorous roots should have been marked for this purpose. Gather the seeds as soon as they ripen, and sow at once, or keep until spring. The shading by the tops will keep down all but a few coarse weeds, which may be pulled by hand.

Beans.—Any of the bush sorts may be sown for late use, or for pickling. The Refugee or 1000 to 1 is usually preferred for salting.

Beets.—In pulling for use, take from those portions of the bed which are most crowded. Weed those sown last month, and thin to six inches apart. Hoe frequently until the tops prevent working.

Cabbages and Cauliflowers.—If any plants remain, set them out for latest crop. Hoe often. Destroy caterpillars or they will destroy the plants.

Carrots.—Many prefer young carrots, and where this is the case seed sown now will give a late crop.

Celery.—That planted early will need earthing up, taking care not to get the soil into the heart of the plant. The plants for a late crop should now be put out. Directions for preparing the trenches were given in the June *Agriculturist*. Shorten the roots of the plants and remove any large straggling leaves. If the soil in the bottom of the trenches be dry, water it before setting the plants, and if the weather be very hot, shade them for a few days with boards or brush laid over the trenches.

Corn.—Mark the earliest and most prolific stalks for seed. Do not disturb the roots of that which is well advanced, but hoe thoroughly all late plantings, and if backward, give a stimulus of hen manure.

Corn Salad.—Sow the last of this month or the first of next, in shallow drills six inches apart, and roll or tread down the soil over the seed.

Cucumbers.—Reserve a sufficient quantity of the earliest and finest fruit for seed, and pick off all others from these vines. Gather for pickles as soon as large enough. Pickles for the army may be of larger size than those usually put up in bottles.

Egg Plants.—Hoe well, and hill slightly. If the fruit touches the ground it is apt to decay. A shingle or some similar protection will prevent this. It should be taken for use before it looses its dark purple color, or the seeds begin to ripen.

Endive.—Transplant for the late crop, setting the plants 1 foot apart each way. Some of the early may be blanched as directed in June, page 178.

Herbs.—Continue to gather aromatic herbs as they come into flower and dry in the shade.

Lettuce.—Sow at intervals, in partly shaded spots.

Melons.—Much of the fruit set will fail to ripen, and it is well to take off all that the frost is likely to injure. Put a handful of straw or a piece of board under the ripening fruit, and give it a turn occasionally to ensure even ripening. All melons are better if picked in the afternoon, and cooled in the refrigerator for use next day.

Mushrooms.—The beds may be made next month, and it is well to be collecting a supply of horse droppings, and have them in readiness.

Onions.—As soon as the tops of the greater part of the bed fall over, the crop is ready to harvest. Let them remain a few days in the sun and then stack in heaps of two or three bushels each to cure. Where they are marketed at once, this is not necessary. If stored in a cool airy place, there is no difficulty in keeping onions sound a long time.

Peas.—Some of the early varieties may be sown now with a fair chance of getting a late supply. Save seed carefully from the earliest and best. Clean off the vines after picking, and feed to sheep or swine, and prepare the ground for turnips, etc.

Potatoes.—Of course only the early sorts are grown in the garden. In digging from day to day, bury the green tops as they will serve to enrich the soil. Allow those intended for seed to remain until thoroughly ripe, but dig before the fall rains.

Radish.—The winter sorts may be sown now. The best of these is the Scarlet Chinese Winter. It is superior to the white and black winter sorts.

Seeds.—Gather with care all that are ripening. Many, such as lettuce, salsify, etc., will ripen if the stalks are cut when the seeds are fully formed, without the waste by winds and birds which will occur if left in the garden until quite mature. Label every thing as soon as it is gathered, and do not in any case trust to memory for names.

Spinach.—Sow at intervals for late use. The crop to winter over may be left until next month.

Squashes.—Use or market the summer sorts before they get too old. Reserve the earliest for seed. Winter sorts are still subject to attacks of insects, and need watching. Destroy the squash bug and its eggs. The Hubbard and Yokohama varieties are eatable at any time, after they get large enough.

Sweet Potatoes.—Keep clear of weeds and prevent the vines from striking root, by moving them.

Tomatoes.—See last month's Calendar. Select the earliest and smoothest fruit for seed.

Turnips.—Thin the long kinds as soon as large enough, and give ashes and plaster, if insects attack them. Plant the round sorts on ground left by peas, potatoes, etc. The Red-top Strap-leaf, and White Strap-leaf, are amoug the best.

Weeds.—Follow the advice so often repeated. Keep them in subjection by horse-power, hand-power, or both. See deseription of Purslane, p. 245.

Fruit Garden.

Those who have an abundance of small fruits will preserve a good supply for winter use in bottles or by drying. Sufficient directions for preserving are given in former volumes, and the whole matter is briefly summed up on page 181, for June. Let nothing of the fruit kind be wasted, while there are men in hospitals who will prize it above gold. Bottled or dried fruits require but little sugar and are better for the sick than jellies or jams.

Blackberries.—The New Rochelle is the variety most generally cultivated, and is black long before it is thoroughly ripe. If left on the vines until perfectly ripened they are sweet and excellent.

Currants.—Cultivators differ as to the time of pruning, some performing the operation as soon as the fruit is off, while others leave it until early winter or spring. Our own plan is to remove suckers and superfluous shoots now, and leave the general pruning until the leaves have fallen.

Dwarf Trees.—Thin the frnit and control the growth by pinching as directed last month.

Grapes.—If the vines have been properly trained, but little now needs to be done, except to pinch off the laterals and the new growth from the ends of the fruiting canes, as often as needed. Use the hoe freely. Insects will continue to be troublesome, and hand-picking must be the chief reliance. If the bunches show any decaying berries, remove them by means of the scissors. Young vines, not yet fruiting, need the same care to secure the best possible growth of wood. If not watched, the caterpillars will seriously damage the young growth. Keep all securely tied to the trellis or stakes.

Raspberries.—Allow only two or three of the strongest shoots of each root to grow, and remove the rest. Promote the growth by forking in aronnd the roots a dressing of well decomposed manure.

Strawberries.—Clip the runners and weed those cultivated in hills. Sufficient is said elsewhere on varieties and the propagation of plants.

Flower Garden and Lawn.

This is an uncomfortable month for the cultivator of flowers. The heats are trying to vegetation, and in grounds of any extent, a general watering is impossible. The most that one can hope to do is to keep plants newly set this spring from perishing. If a tree or shrub ceases to grow, or looks sickly, remove the earth around it, give that over the roots a thorough soaking, replace as before, and give a mulch. One such application will probably save the plant until rains come. Laying out of new grounds or any improvements in the present plans may be projected and put into execution now, and lists of plants made, in order to be ready for the autumn planting of trees and shrubs.

Box Edging may have its final clipping now.

Budding.—All ornamental shrubs propagated in this way may be worked, if the directions given in detail on page 228 are observed.

Bulbs.—If any spring sorts remain in the ground, take them up as soon as the foliage withers, and keep them in a dry, cool place until autumn.

Climbers.—Provide proper supports and see that they cling to them. They often need a little help.

Dahlias.—Keep tied up as directed last month. Remove imperfect blooms and those, the beauty of which has passed. The borer makes its way into the stems; watch for and dig it out carefully. Keep rose-bugs and grasshoppers away from the flowers.

Fuchsias.—If these have partial shade they will keep blooming all summer. Put in cuttiugs for plants to winter over. They root very readily in sand or sandy soil, and will make good plants.

Gladiolus.—These are now large enough to push their flower stalks, and need tying to neat stakes.

Hoeing.—During the dry season the hoe and rake must be kept in nse, not only to remove weeds, bnt to loosen the soil and help sustain the plants.

Hollyhocks.—Sow this month, and the plants will bloom next year. Save the best for seed.

Insects.—Though these are not as troublesome as in former months, there is still need of watchfulness. Dusting of lime or ashes, and syringing with whale-oil soap will be needed. Above all, hand-picking is the great remedy. When an insect is caught and crushed he is sure to be of no further trouble.

Layers.—Almost everything in the way of woody plants, and the firmer herbaceous ones, can be multiplied by layers. See Orchard and Nursery.

Mignonette.—Sow in pots for a late bloom.

Pansies.—Sow this month for plants to flower in spring, choosing a partially shaded spot. Favorite kinds may be multiplied by cuttings and layers.

Perennials.—A year may be saved by sowing the seed of most of them now. Fox-gloves, Sweet Williams, Lychnis, and many others will make plants strong enough to endnre the winter aud will generally flower next year.

Potted Plants.—Those set about the grounds must not suffer for want of water. Loosen the surface of the soil in the pots and keep out weeds.

Roses.—Layer the new growth and keep off insects.

Seeds.—The finest flowers shonld be marked and seed collected from them as soon as ripe. Some seed vessels, snch as Pansy and Phlox, scatter their seed when they burst. All such are to be gathered before fully ripe, and put under a sieve to dry.

Verbenas.—An abundance of natnral layers may be found, or they may be made in a few days by pegging down the branches. Pot of some of these to keep for blooming in the house.

Weeds.—They grow rapidly now and will need a frequent application of the hoe and rake.

Green and Hot-Houses.

The general directions of last month are to be followed. See that none of the plants are burned by the sun. All repairs should be made in ample time to have all in readiness for the return of the plants. If new structures are to be built, it should be done at once. Overhaul and repair heating apparatus, lay in a stock of fuel, and a supply of potting earth. The present is the proper time to sow a large number of florist's plants that are raised from seed, as Calceolarias, Chinese Primroses, etc. Small seeds should be sown in *very fine* soil, and in watering take care not to wash them out.

Cold Grapery.

The fruit will usually begin to ripen by the middle or end of the month, and as it progresses, the watering should be discontinued, and all sudden atmospheric changes guarded against, though a free ventilation is to be kept up. When the fruit is ripe the npper ventilators may be left open at night. Mildew is likely to appear in warm, damp days, and is to be counteracted by the nse of snlphur and dryness of the air, as hinted last month.

Apiary in August.

Prepared by M. Quinby—By Request.

The season for early honey in many places has been propitious. Many colonies, particularly the Italians, have already filled combs with honey, that ought to be occupied with brood. With the old box hive there is only the partial remedy of adding surplus boxes. But with the movable comb hive, the matter can be controlled admirably, by substituting empty combs for full ones, as recommended last month. When the honey can not be removed, the bees will be obliged to store the buckwheat honey gathered this month, mostly in the boxes. Give ample room by adding all boxes needed. When the colony is strong, and all boxes nearly full, only wanting some of the corners filled out, (which will often take long enough to half fill empty ones;) there is a great saving of precious time by making holes through the top of empty boxes, and setting them on the hive, putting those part full above them. By the time the upper ones are finished, the lower ones will be ready to raise in the same way. This gives room for donble the number of bees to labor at the same time. Any boxes of clover honey nearly full, should be removed on the first of the month, to prevent the mixing of buckwheat honey with it, which will make it darker. Boxes that are full may be kept safe from the moth worm, with the least trouble, by leaving them on the hive until autumn. The honey will not be nearly so white, as if removed as soon as filled. The boxes will also be in the way of empty boxes that ought now to supply their places. The greater quantity and purer quality of the honey will induce most bee-keepers to remove it, and destroy the worms if they hatch, with a little burning brimstone. Where there is no buckwheat raised, *all* boxes may be removed now. When the bees begin to take the honey from the unsealed cells, it is time to remove them. Look carefully for diseased stocks. Drive out any found, to begin anew. Any queenless colonies discovered now, should be supplied by dividing a buckwheat swarm that may issue this month, giving them the half containing the queen, and returning the remainder to the parent stock. To ascertain where the queen is, divide the swarm equally, put in two hives, a few feet apart. In a few minutes those without a queen will be attracted to the hive containing her, which should be covered to keep them out, then shake them ont by the old hive. If it is desirable to rear Italian queens late in the season, when the black drones have disappeared, for the sake of securing purity, a stock in which bright colored drones are numerous, should be selected and rendered queenless. When honey fails in flowers, they should be fed a little each day, or the drones may be destroyed.

Exhibition Tables at the Office of the American Agriculturist.

The following articles have been placed on our tables for exhibition since our last report:

FRUITS.—*Strawberries:* Brooklyn Scarlet, Empress Eugenie, Marguerite, Monitor, Prince Frederic William, and Russell's Prolific, by Wm. S. Carpenter, Rye, N. Y. ....Basket of several varieties; E. C. Cortelyou, Staten Island....Triomphe de Gand and Austin; Wm. Quin, New York city....Russell's Prolific; A. J. Caywood, Modena, N.Y....Heins' White, very fine; Wm. P. Heins, Morrisania, N. Y.——*Gooseberries*, very fine; George Mayland, Brooklyn, N. Y....American White; Robert B. Dore, New York city.——*Currants:* Fine specimens of La Versallaise, Cherry, Red Dutch, Red Grape, Short Branched Red, Champagne, Gloire de Sablons, White Dutch, and Prince Albert; E. Williams, Mont Clair, N. J. Red Dutch; Elsie Wheeler, West Orange, N. J. ....*Blackberries:* New Rochelle, first of the season; C. S. Pell, New York Orphan Asylum.

FLOWERS, ETC.—White Cactus in bloom; B. Van Gilderwas, 86th street, New York city....Bouquets, cut flowers, Chinese Hydrangea, Roses, Heliotropes, Fuchsias, etc.; Miss A. M. Cortelyou, Westfield, Staten Island. ....Chinese Pinks, 21 varieties; Charles Kuttler, West Hoboken, N. J.....Poppies, very fine; C. S. Pell, N. Y., Orphan Asylum. Dahlias, fine and first of the season; C. W. Moore, New York city.....Fuchsias, Geraniums, Nasturtiums, Cannas, White Roses, Hollyhocks, Erythrina or Coral Tree, etc.; O. Judd, Flushing, N.Y....Trum-

pet Lily, very fine, Hollyhocks, Summer Savory, etc.; Alexander Marsh, Paterson, N. J.....Lady's Slipper; J. Gregory, Jersey City, N. J..... Trumpet Lily, Mrs. Gale, Brooklyn, L. I.

VEGETABLES, ETC.—Tom Thumb Peas and new Buckeye Potatoes; Wm. Clarendon, Sing Sing, N. Y....Fine Cucumber; Charles Mandewirth, Fishkill, N. Y.....Potato Onion, Early June Potatoes and Early Valentine Spring Beans; G. M. Usher, Port Richmond, N. Y..... Two fine Cucumbers; E. C. Cortelyou, Staten Island.... Samaritan and Early June Potatoes, June 28th, large growth; J. Van Brunt, Fort Hamilton, L. I....Naked Barley, very fine; no name.....Black Poland Oats; S. W. Miller, Elizabeth, N. J. ...Grass, *Calamagrostis Canadensis*, from Swamp; John B. Vroom, Washingtonville, N. Y....Curious growth of Summer Squash; Jno. W. Christie, Hackensack, N. J.

MISCELLANEOUS.—Cahoon Nut from British Honduras; A. C. Burr, New York city......*Blitum capitatum*, or Strawberry Blite, W. S. Carpenter, Rye, N. Y.....Large Brahma Pootra egg, weight 4¼ ounces......Egg in the interior of another; S. G. Colt, New York city..... Double Egg, similar to last, outer one measuring in largest circumference 8½ inches, in smallest, 7¼ inches, from Black Spanish fowl one year old; W. W. Denslow, High Bridge, N. Y.....Samples of Sorghum sugar made on Cook's Evaporator; C. B. Lines, Topeka, Kansas, and C. D. Roberts, Jacksonville, Illinois.

Directions for Budding.

A large share of budding is done during this month. When the buds of any sort are well formed, and the bark of the stock peels freely, is the time to insert the bud. So many ask how to bud and perform simple operations, which are great mysteries to those who have not tried to do them, that we are frequently obliged to go back to first principles. At this time we introduce cuts illustrating the operation of budding for the benefit of the inexperienced. Stocks are one or two year old trees, raised from seeds or cuttings. Buds from trees of desirable kinds are formed upon the shoots of the present season's growth, in the axils of the leaves, or where they join the stem. Cut a shoot of this kind, remove the upper unripened buds and the lower undeveloped ones, and also the leaves, letting their stalks remain as in fig. 1. With a sharp knife remove a bud, cutting from below upward. The figure shows the bud and the place whence it was cut. Select a smooth place upon the north side of a stock, and as near the ground as possible, and with the knife cut through the bark as

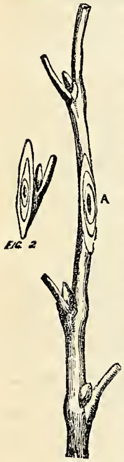


Fig. 1. FIG. 2

Fig. 3.

Fig. 4.

Fig. 5.

shown by the line in fig. 3. Lift the corners of the cut portion, and insert the bud, crowding it well down into the cut as in fig. 4. A portion of the bark of the bud will stick above the cross-cut on the stock; this should be cut off even with the cross cut. Bind all up with bass bark, lamp wicking or woolen yarn, as shown in fig. 5, taking care to bind so as to exclude rain and to keep the wounded bark from curling up and drying. If the buds appear plump and sound after they have been inserted a fortnight, it is fair to conclude that they have "taken." With this brief description and the engravings, one can make a few trial experiments on worthless twigs and then go to work with a good chance of success. Label all budded trees and make a record of them to avoid future trouble.

Agricultural Exhibitions in 1864.

State Fairs, etc.

New England	Springfield	Sep. 6—9
Am. Pom. Society	Rochester, N. Y.	" 13
Ohio	Columbus	" 15—18
New York	Rochester	" 20—23
Wool Growers' Convention	Rochester	" 21
Wisconsin	Janesville	" 26—30
Upper Canada	Hamilton	" 26—30
Pennsylvania	Easton	" 27—30

County Fairs.

VERMONT.		
Chittenden Co	Burlington	Sep. 27—28
CONNECTICUT.		
Fairfield Co	Norwalk	Sep. 27—30
NEW YORK.		
Putnam Co	Carmel	Sep. 16—18
Otsego Co	Unadilla	Sep. 27—28
NEW JERSEY.		
Burlington Co	Mt. Holly	Oct. 4—5
PENNSYLVANIA.		
Bucks Co	Newtown	Sep. 27—28
Luzerne Co	Wyoming	Oct. 5—7
OHIO.		
Richland Co	Mansfield	Sep. 7—9
INDIANA.		
Fayette Co	Connersville	Sep. 6—9
Laporte Co	Laporte	Oct. 12—14
ILLINOIS.		
Kankakee Co	Kankakee City	Sep. 7—9
Cumberland Co	Majority Point	Sep. 29—Oct. 1
Monroe Co	Waterloo	Oct. 12—14

New York Live Stock Market.—BEEF CATTLE.—Average weekly receipts 4,317, much the same as last month. In our last report the decline of prices from the extraordinary rates they had reached, was noticed; the market continued to fall for two weeks, showing a depreciation of 1 @ 3c. per lb. The third week—"Fourth of July week"—the supply was limited and prices advanced fully 1c., the prospects indicating still further rise; but the past week the weather was hot, the market was heavily stocked, closing dull, and sales slow; prices falling off about 1 c. on the lower qualities of cattle, but much less on the better grades. Prices stood at about 17 @ 18c. per lb. for prime bullocks, dressed; medium to good 14c. @ 16½c; very thin and common from 10c. @ 13½c. These figures show a material falling off from the prices quoted in last month's *Agriculturist*. The Cattle market at present seems to be almost wholly ruled by the supply, and this is to a considerable extent controlled by speculators, and to a remarkable degree independent of the constant fluctuation and rapid rise of the gold market, and the advance of many articles of merchandise.

Milch Cows.—The arrivals average 156 per week,—a falling off of 31 head from the averages of last month. Our last report indicated a decline. Some of the distilleries have been closed, and as these take many of the cows brought to this market, there is now still less call for them, and sellers say there is a decline of $10 @ $15 per head since prices began to fall. We quote poor common cows at $20 @ $35; good $50 @ 65; really prime and fancy cows $80 @ $100.

Veal Calves.—The weekly average supply has been 1,725, not including those sold direct to butchers. Prices are not quite so good as quoted last month. Prime veals quote at about 11 c. live weight, from this to 10½c. @ 7c. @ 6c. for good to thin: grass fed $7.50 @ $8 @ $12 etc. per head, according to quality and weight.

Sheep and Lambs.—The weekly receipts average 12,672, about double those of last month. Prices have fluctuated during the month, but have not been as high as the closing figures of our last report. Shorn sheep on the 12th inst. rated at about 6c. @ 6½c. for common; 7½c. @ 7¾c. for good, while selected ones would probably bring fully 8c., live weight. Lambs rate 9c. @ 12c.

Live Hogs.—The weekly average is 13,515, —more than 1,000 greater than last month. The receipts have increased each week of the past three, being 8,000 heavier the last week of the month than the first; this we attribute to the high prices. Speculation has been active in the pork trade, and this has quickened the hog market. Hogs advanced for the three first weeks included in our report, but the last week there was less firmness, some grades showing an advance, while others exhibited a decline. Pork on the 13th was considerably lower, and indications favor a decline in hogs, yet it is unsafe to predict anything in times of such commercial excitement. The quotations below show an advance of 2c. @ 2¼c. per lb., live weight, over prices quoted last month, and 3c. @ 3⅝c. over those of two months ago. Prime corn-fed rate at 11⅛ @ 11⅜c., live weight; medium at 11c. @ 11¼c.; light and fat 11c. @ 11⅛c.; still-fed 10¾c. @ 11c.

OUR BASKET

Containing a great variety of Items, including many good Hints and Suggestions which we give in small type and condensed form, for want of space elsewhere.

The Strawberry Distribution will commence about the last of this month and proceed as rapidly as possible. (See last page.) Instructions for care of plants, and propagating from them as rapidly as possible are given on page 242. Arrangements should be made beforehand by those who go to the Post Office only once or twice a month, as is sometimes the case, to go oftener or to have the plant given by the Postmaster to some neighbor who will deliver it at once, for though it is probable the plants will *live* a fortnight out of the ground, they will do the better the sooner they are planted.

Note about Strawberries.—Some of our subscribers misunderstand the conditions of the strawberry *distribution by mail*, and apply for the plants without sending the 5 cents. Of course we can not send them, and they may be disappointed.

Lessons from the Drouth.—In reviewing his own agricultural experience the writer is confident that he has learned more salutary lessons from drouths, and cold wet spells, from mistakes and blunders of his own and of others, than from the greatest successes. So not only may these dry seasons be productive of good in destroying insect life, and favorably changing the character of the soil, to a certain extent, giving opportunities to drain etc., but we may all take lessons in deep plowing and working of the soil. Not one single really deeply worked field or plot of ground have we seen which was suffering *at all* from drouth. The corn stands, dark green, strong and thrifty, next to fields of poor, little, yellow shrivelled, curley-leaved specimens, which do not now look as if they would return the seed. Grain, clover, and fields of other crops look about the same. Well enriched soil, underdrained and plowed 10 inches deep will stand almost any drouth.

The Agricultural Exhibitions this fall promise to be spirited and will be successful if encouraged as they deserve. We write to urge farmers to sustain them, not merely because the officers in charge deserve this appreciation of their labors—often perplexing, severe and wholly unequited—but for the sake of the farmers' own interest. Improvement in breeds of stock, varieties of produce, implements, and other agricultural matters are brought directly under the observation of those most interested, by means of these annual gatherings. A visit of an hour, properly improved, may result in more pecuniary profit to a farmer, than months of hard labor. For example, a gentleman at such an exhibition, a few years since, noticed a sample of what appeared to be a superior variety of rye. He procured a small quantity of seed, and from its produce, realized hundreds of dollars of clear profit, by selling it for seed to eager purchasers in his own neighborhood. The Inventive and mechanical world are wide awake, and the farmer must be so too if he would avail himself of the aid they are bringing within his reach. A single improved implement may save the cost of one or two hired men in a season. Illustrations might be multiplied, from every department of agricultural Industry. Let work and business be arranged for attending the "Fair", with the understanding that it is one of the *indispensable* appointments of the year—as much as a call from the Provost-marshal. Uncle Sam needs skillful men in the field of culture as well as the field of battle; turn out then on review days.

Turnips or Carrots for Fattening Cattle.—"Michigander" asks, which is best? Carrots

are a much more valuable root than turnips, pound for pound—they will keep longer, sell for more, are better for horses and milch cows and working-cattle. We have never heard of cattle being fattened exclusively or even principally on carrots; but they are often, and very profitably, fed in connection with grain. Turnips however, sometimes in this country, and commonly in England, constitute the *exclusive* feed. The cattle have no other feed but all the turnips they will eat, and nothing or little to drink. They gain flesh fast and are often marketed without "finishing off" with grain, though this is better, especially if the beef has to be driven far or stand a long journey. This practice is said to be better than feeding hay with the turnips.

Beardless Barley.—"M. E. N." There is a two-rowed beardless or bald barley, which has a fair reputation. The Nepaul barley which we received from California and distributed quite extensively is almost beardless and hulless, it has given great satisfaction in many cases we have heard from. There is besides a hulless or naked barley with beard, two-rowed, very good.

A Lesson in Horse-breaking.—Major Winthrop says in John Brent: "I learned to govern horses by the law of love. The relation of friendship once established between man and horse, there is no trouble. All lower beings, unless spoilt by treachery, seek the society of the higher. As man by nature loves God, horses will do all they know for man, if man will only let them. All they need is a slight hint to help their silly, willing brains, and they dash with ardor at their business of galloping a mile a minute, or twenty miles an hour, or leaping a gully, or pulling tonnage. They put so much reckless break-neck frenzy into their attempt to please that he must be brave to go thoroughly with them."

Sorghum Seed.—"J. B.," Putnam Co., Ill., inquires, if Sorghum seed does not need renewing every few years, above latitude 40°? Our knowledge of the progress of Sorghum culture, and of the nature of the plant leads to the belief that there is no such need if the seed is properly selected, from well ripened canes which grew at a distance from other fields, which may have been raised from carefully selected seed. Certain it is there is a great deal of poor seed in the country, but there is also some Sorghum, the seed of which has never been changed, that has maintained its character from the first undeteriorated. It is important to select seed this autumn and not wait till next spring, when one must take what he can get.

Book on Breeding.—"J. S. C." "Goodale's Principles of Breeding" is an excellent practical treatise on this subject, and worthy the careful study of every farmer. This answers your last question, and if you get the book it will answer all the rest.

Sorghum Sugar.—Two beautiful samples of sorghum sugar (from a lot of 300 pounds made by Charles B. Linds of Kansas,) have been placed upon our table by Blymyer, Bates & Day, the manufacturers of Cook's Evaporators, Cincinnati, O., in refutation of a remark in the *Agriculturist* that sorghum sugar "has not a market value so high as the syrups it will make," and that, as it generally occurs, it is "a gummy mass and not marketable." There has never been the slightest doubt in our minds that sorghum juice contained crystallizable sugar; we know that it does, and that it is usually so mixed with grape sugar and other impurities, that, as it has been produced by 99 people in 100, it is a gummy mass lacking in sweetness and neither marketable, nor wanted by the sugar refiners. There is no doubt that as processes are studied and practice perfects the sugar boilers, and as the apparatus is improved, more sugar may be produced; and we certainly hope that we may be able bye and bye to recommend to our readers, to aim at making sugar rather than syrup, as it is now; almost certain success attends syrup making, so while we urge experimenting, we cannot recommend indiscriminate trying to make sugar, because disappointment would follow.

Sour Sorrel—Sour Soil.—So many of the intelligent correspondents of the *Agriculturist* allude to the presence of *sorrel* as indicating "*acid*" in the soil, that we must again assure our readers that the two have no connection whatever. Soils which abound in vegetable acid are not the ones on which sorrel grows most readily. If by "sour" is meant only harsh, cold, unfriendly to the growth of crops, there is no objection to the use of the word, and so we employ it. Such soils are often wet, contain salts of protoxide of iron and vegetable acids. Sorrel and the coarse grasses and sedges grow pretty well on them, and the character both of the soil and its products is changed by deeper plowing and the addition of lime and alkalies (ashes) in liberal quantity. The fallacy of the reasoning we criticise is seen in the fact that we get the best Rhubarb (own cousin to Sorrel) on the "sweetest" and mellowest garden soil.

The Use of Fish as Manure.—"G. B. H.", Middlesex Co., Conn., writes to the *Agriculturist* that the use of large quantities of White Fish or Mossbunkers, though at first producing excellent crops, after a while "the soil becomes hard and bakey, the crops steadily diminish, and an acid shows itself (see item on sorrel) in greater or less quantities of sorrel." He has been successful in remedying these evils "by composting the fish or fish guano with swamp muck, adding 1 peck of lime, or its equivalent of wood ashes, to the load, and a small quantity of gypsum to fix the ammonia." The compost may be very freely used with good results.

Best Floor for Horse Stables.—"G." writes to the *American Agriculturist:* "For horses at all inclined to have tender or contracted hoofs, the best possible floor is one of earth. Remove the planks and joists, throw in a foot or so of stones or broken bricks, for drainage, then finish off with six inches of good clayey soil pounded down firm. Such a floor will never rot or break through, endangering the horse's life or limbs: it will keep his feet soft, and in nearly as healthy a condition as if he were at pasture. Having tried this and seen it tried on horses with tender feet, I can recommend it with confidence." [The only fault with this floor is that the urine, the best part of the manure is chiefly lost.]

Shelter for Sheep at Pasture.—We find a suggestion in one of our exchanges and uncredited, in which there is wisdom. It seems that it has been the practice of Solomon Green of Massachusetts to give his sheep the shelter of small dark buildings put in their pastures, and into which they may go at pleasure. The result is that during the heat of the day they retire into them and remain till about 4 o'clock in the evening. The houses are small and on runners so that by shifting them often the land is thoroughly and evenly manured. This is a good idea for breeders of valuable sheep, who think no labor lost which contributes to their welfare.

Alderney Cows.—"Esther," Steuben Co., N. Y. Good to first rate cows cost from $200, currency, to $250 in gold; half bloods or grades which are nearly as good for milk, $100 to $200 according to their milking qualities. There are few pure bloods offered for sale now. A few Guernseys and Alderneys, a decidedly inferior lot, were sold at auction in this city a few weeks since at very high prices, to rich city merchants.

How Tobacco is handled in West Virginia.—Theo. Heineman of Marshall Co. writes out his method of treating tobacco, for the readers of the *Agriculturist*. After describing the early culture, hoeing and topping, he says, he keeps it suckered and wormed till it is fit for housing. "Then I begin to strip the bottom leaves off, haul to the house and string them. When the house is full I close the doors and start a fire in the flues,—just enough to keep the house warm, till it turns yellow; then I raise the fire so that it dries it out in 48 hours. If I get the fire too high I throw open the door till it cools off. When it is dried out I let it hang several days until it draws dampness, so that it may be handled without breaking. Then it is taken down and piled in a house for the purpose, until it takes a sweat, when ready to 'hand', hang it again, and when damp enough, hand it and 'bulk it down'; and so it lies till all is 'handed.' It is then hung on sticks and dried out [we suppose by fire-heat] till it is perfectly dry. When it gets damp enough (by exposure to the air) to pack, I place it in hogsheads and press it so as to get 8 to 10 hundred-weight in a hogshead."

Tobacco Worm Moth.—"S. B. W." of Warren Co., O., recommends the flowers of the "Jamestown weed" or "Jimsen weed" as the best into which to put the poison honey for destroying the Tobacco Sphynx. In the article on tobacco in the *American Agriculturist* last month (page 201) this is the plant mentioned under the more widely known name of *Stramonium*. It is described and figured on page 148 (April). This practice of poisoning the sphinges is every way recommendable, provided the poisoned honey be put in plucked flowers or those that will wilt when the sun comes upon them.

Aeration of the Soil.—"J. N. C.", Niagara Co., N. Y. The aeration of the soil in connection with drainage takes place on this wise. The air penetrating the soil as low down as the water is drawn off, and being always subject to the law of "diffusion of gases" *is always changing*. The warm air above the surface contains much moisture; that deep in the soil has, by becoming cool, parted with its moisture to the soil, and has lost its ammonia also, and much of its carbonic acid. So according to the law of diffusion the air above will constantly be changing places with that below, and the result is a perfect aeration or airing of the soil, with many attendant benefits, as far down as it is drained, and the more pulverized and open the soil is the better.

Planting Acorns.—J. H. Graves, Ogle County, Ill., planted last autumn a quantity of acorns, but did not succeed in getting oaks. They were probably planted too deep, as they are naturally sown just under the covering of fallen leaves. In this country the raising of oaks from seed has been so little practised that we are without much reliable information upon the subject. All our writers copy from the English. In England they gather the acorns and dry them in the sun, and then pack them with three times their bulk of sand, keeping them safe from vermin in a cellar. They are sown in the spring in drills, setting the acorns at about two inches apart, if grown in the nursery, and covering ½ to 1½ inches, according to size. Some prefer to plant, where the tree is to stand, 4 or 5 acorns in a hill, and gradually thin out all but one. To grow oaks successfully, the young plants should be protected for the first few years by other plants. Birches or Larch may be sown for the purpose, or some of our pines which grow very readily from seed. In England they allow the pines to grow first and when they are 4 or 5 feet high, the oaks are sown under their shelter. As the oaks grow, the nurse trees, as they are called, are gradually thinned out and the wood from these pays the expense of planting.

Fence Posts.—"Subscriber" asks, will *oak* or *cedar* make the most durable fence posts? We take it he means *white* oak and *red* cedar. We think the cedar will last much the longer, but it is quite impossible to tell how long either will last, so much depends upon the character of the soil.

Condensed Milk, etc.—James Reid, Vicksburg, Miss. Condensed milk cannot be prepared in families, as it requires expensive machinery worked by steam power, and costing many thousands of dollars. The putting up of meats is a regular trade, and we cannot give any process which can be practised in the small way. The chicken, etc., is first put into cans and soldered up, leaving a small hole in the cover; the whole is then thoroughly cooked in boiling water, all air being expelled; then the hole is closed with a drop of solder.

Gapes.—How to find a Chicken's Windpipe.—"X", who wrote to the *American Agriculturist* from Baltimore Co., Md. (p. 204), thinks people will not find the chicken's windpipe unless they are told that, "*the opening to it is a slit through the root of the tongue*, which is entirely closed except when the chicken is inhaling or exhaling breath. The feather must be thrust down this opening and not down the throat."

Ashes for the Curl in Peach Trees.—C. F. Raynard, Fairfield Co., Conn., has successfully cured the curl and killed the aphis which causes, or at least accompanies it, by sprinkling coal ashes over the foliage. The use of ashes around the trunks of the trees has been frequently noticed in this journal.

Pruning Peach Trees.—"A Boy," Dekalb Co., Ill. It is customary to cut back the previous year's growth one-half or one-third in February or early spring. If regularly followed on young trees it will keep them in good shape and increase their fruitfulness.

The Peach on Plum Stocks.—W. G. Kent, Lee Co., Iowa. By budding on the plum stock the peach is somewhat dwarfed and is thought to be made more hardy. The plum roots flourish better in cold wet soils than do those of the peach, and in England this mode of propagating is very generally followed.

How to Clean Carrot Seed.—The question asked through "the Basket" some time since is thus answered in a note to the *Agriculturist* by L. T. Robbins of Plymouth:—"I put them into a tub of water and rub them hard, [between the hands we suppose,] this takes off all the burrs, which, with all the light poor seed will rise to the top and may be turned off, while the good seed will sink to the bottom. This I spread out in the sun till dry, and put up for use."

"Bugs" in Peas.—Mrs. J. M. Corunna, Ind. The cause of the bugs in peas is a beetle which lays its eggs in the green pea, this egg hatches into a grub which finally turns into a beetle. The insects may be killed by scalding the peas before sowing them. It is probable that these insects damaged the peas before planting, so as to injure the germs, though this is not usual.

Trouble with Currant Bushes.—"E. G.", Norwich, Conn., has experienced nearly a total failure by the dropping of the fruit. Examine the branches by splitting them longitudinally and see if the borer has not been at work. If he is still there prune severely and burn the cuttings. Start new bushes from cuttings this autumn.

General Fruit Book—How to recognize Fruits.—Many inquire after a book, which will enable them to name fruit will find Downing's Fruits and Fruit Trees of America the best work. It contains descriptions of all the standard varieties and has figures of most of them. See book list.

Grape Questions, Pruning, etc.—"C. L." Fuller's Grape Culturist is the best treatise upon the general management of the vine yet issued in this country. See our book list.

An unfruitful Peach Tree.—D. E. Oswald has a thrifty peach tree which blossoms but has never borne a peach. The flower sent had its pistil so badly malformed that it could not develope into fruit. If the blossoms are all like the specimen, nothing can be done for the tree.

Ants on Pear Trees.—Eudora Stone, Foxlow, Mass. Tarred paper, or paper smeared with an ointment of rosin and lard, and bound around the trunk will probably keep the ants from ascending the trees.

The Currant Worm.—S. Edward Todd states in the Country Gentleman that he has found that the currant worm could be destroyed by dusting the bushes with the powder of White Hellebore, which is sold at the drug stores. Make a note of this for trial next year.

Smut in Onions.—A gentleman from Southport, Connecticut, has shown us specimens of young onions, the leaves of which were filled with a black powder having every appearance of the smut which affects corn. It attacks the plants when quite young, and soon kills them. Large fields have been destroyed, and unless some means can be found of checking the evil, the cultivation of the onion, in that section, will have to be abandoned. A free application of salt to the plants, while young, and a solution of copperas were suggested as experiments. If any readers have successfully treated this disease, their experience should be given for the benefit of others.

The Onion Grub.—If any of the readers of the *Agriculturist* have successfully combatted the attacks of this insect they will please communicate their experience for the benefit of others.

Propagation of Grapes and Roses.—"H. L.," Dayton, Ohio. Fuller's Grape Culturist gives minute directions for growing the grape from cuttings by heat. We know of two cases in which persons, quite inexperienced, have succeeded perfectly by following his book to the letter. Roses may be propagated by making cuttings in the fall about 8 inches long, keeping them in sand in a cellar or green-house over winter, when they will callus, and then planting out in spring Free growing kinds may have cuttings taken of the new growth after it is mature, and put in sandy soil under a shaded frame and kept moist and close.

Renovating an Asparagus Bed.—"E. G.", Norwich, Conn., has an asparagus bed which has been neglected and yields poorly. Give manure now, and a thick covering of it over the bed in autumn. Next spring sow seed and prepare for a new bed to replace the worn out one.

Sweet Basil.—W. A. Block. This is an aromatic herb and is much more prized in Europe than in this country. It is used in soups, stews and salads, to which it imparts its peculiar flavor, somewhat resembling that of cloves. It is annual, cut in flower, and dry.

The Cranberry Tree again.—E. Holmes, of Kennebec Co., Me., puts in a protest against our statement that this shrub is "quite worthless for its fruit. He has eaten it in the wilds of Maine when it was great luxury with his salt pork and hard-tack. Mr. H is right, and we are right. In travelling through unsettled countries (and we have had our experience of Aroostook Co. and Mt. Katahdin with an additional three years more in the wilds of Texas and Northern Mexico), we know that any thing seems good, simply by contrast. But we are writing for civilized people and we maintain that the Tree Cranberry is not worth *cultivating* for its fruit, because there are many better things. On another page we mention that we have eaten purslane and thought it good; but we don't recommend the cultivation of purslane as long as we can grow spinach. Having had our say, we quote the conclusion of Mr. Holmes very pleasant letter: "The berries, where not exposed to the ravages of birds and the thrashings of high winds, will remain on the bushes until next May, and thus make a beautiful winter ornament. After they have been frosted severely the "bitterness" of which you complained is destroyed and the acid is more mild and agreeable. The berries may be then cooked and passed through a colander, to separate the pulp from the seeds, and used for sauce, or pies, in addition to other *fixins*. A very pleasant juice resembling cider may be expressed from the thawed berries in winter. I have never known any gathered and laid down as preserves as are other small fruits, because they preserve themselves all winter on the bush, when growing in situations above named. Now I don't believe you would knowingly, or willingly injure or abuse even a cranberry bush. I hope you will retract your accusation of its 'being worthless for its fruit' and allow that it is both beautiful and useful whether for flower or fruit' and worthy of cultivation for its many merits."

Treatment of Bulbs.—"A subscriber," Noblesville, Ind. Gladiolus, Tigridra and Tuberose are to be taken up as soon as the frost kills their leaves. With Oxalis Deppii there will be found several bulbs or buds at the top of the root, which keep in dry sand.

"Verbena montana," etc.—There has been much talk about this, and it has been noticed in some journals as a new, fine, and hardy Verbena from the Rocky Mountains. This summer dried specimens have been received, and were determined to be the old *Verbena aubletia*, an opinion which has been corroborated by the highest botanical authority in this country and also by one of the most distinguished florists of England. *Verbena aubletia* is found wild in Illinois and southward. In comparison with our garden sorts, it is a coarse plant, and though it is not unworthy of cultivation, it ought to stand in its proper name and on its own merits. There has of late been a persistent attempt to bring forward common native plants under unfamiliar names; these have high colored descriptions, and many who buy plants or seeds from these will be sadly disappointed. Our readers need not be told that we advocate the cultivation of every American plant worthy of a place in the garden, its native origin being to us an additional recommendation. But we do object to introducing under the name of "Prairie Flowers" and "Rocky Mountain Plants" a lot of worthless trash. Last season one of our principal seedsmen published in his catalogue a list of plants from the prairies under their botanical names. We saw at a glance that the majority of these seeds were those of vile weeds, and informed the dealer, who very properly suppressed the list. There may be some desirable things offered in this way, but there is so much of either ignorance or humbug mixed with it that we must advise our readers to beware of American novelties, until they can learn that they have been properly tested.

Gazania splendens, etc.—"J. S.", Brunswick, Me. This is not a hardy plant. Downing's mulberry originated at Newburgh, N. Y., and is perfectly hardy there, where they have quite severe winter.

Humbugs—"Howard Association."—Several persons have from time to time written us, that we were wrong in denouncing this and that advertising "Doctor," "Medicine," etc., each one of the writers claiming to have experienced or seen remarkable cures by some one of these "doctors" or medicines. In most cases, doubtless, the persons thus writing are the employed agents of the parties in whose behalf they write. But in some cases, at least, they speak candidly. Many persons imagine themselves "cured" of a distressing disease, which was only an imaginary, or very slight one at first. Nine-tenths of all the cancer and other remarkable "cures" are merely natural recoveries from supposed terrible maladies. A stimulant in a medicine has made one feel well for the time being, and the medicine has been lauded to the skies as the curing agent.

Cooking in Summer.—Have those of the many readers of the *Agriculturist*, who live in towns and villages where gas is used, ever tried, a gas stove? Gas, as ordinarily burned to produce light, will smoke any vessel placed over it to be heated. In a gas stove the gas is first mixed with air, and then it burns with a flame which gives but little light, but a great deal of heat, and the combustion is so complete, that no smoke is produced. In preparing meals in summer, all that is required is heat enough to boil a teakettleful of water and cook some simple dish. To build a fire to do this, makes a great waste of fuel, besides heating the apartment uncomfortably. In a gas stove the fire is kindled in an instant, and as soon as it has performed its office, it is extinguished by the turn of a stop-cock. For preparing breakfast and tea a small gas stove will be found wonderfully convenient, if not economical. Those who live where gas is not supplied, will be glad to know that the inventious for using kerosene or coal oil are assuming a practical shape. We have recently tried one of these kerosene-stoves, of the kind advertised in our columns, and found that, reckoning the oil at the highest price, we could boil a gallon of water for less than two cents' worth of fuel. The apparatus was perfectly new, and there is no doubt that subsequent experiments will show a lower cost. The same stove is calculated for frying, stewing and other small culinary operations. Doubtless there are many families who are so situated that they would find an article of this kind economical; but with an equal cost with other fuel, the ease with which it is managed, and the ability to cook without overheating the room, will commend the kerosene-stove to the attention of hundreds.

To Polish Patent Leather about Carriages, etc.—W. C. Hart, Orange Co., N. Y., writes to the *American Agriculturist* as follows: "The 'dash' and bodies of wagons covered with patent leather, and parts of harness of the same, as the blinders, saddle, etc., may be polished by taking sweet oil and applying it with a soft piece of muslin; after well oiling let it remain for a few hours, then take a piece of muslin that is soft and pliable, and polish by rubbing. It will look as well as new, and well repay the trouble.

Coffee Mixtures and Substitutes.—Hundreds of these are in the market, many of them worthless—not a few deleterious, and none of them equal to the real article. The latter however has reached such a price that a palatable and wholesome substitute is desirable in many families. The London Club Coffee contains a portion of the pure Java, and having been made acquainted with its entire composition, we can say the additions are not hurtful. The flavor is agreeable, superior to that of samples *sold* as pure coffee, roasted and ground.

Surface Signs of Water.—"H. E. P.," Passaic Co., N. Y. There are no signs tha indicate surely where water may be found in many places. Still there are some external evidences of water which may be observed with advantage in locating wells. For instance where the water comes out all along on a hill-side it is highly probable that a well dug higher up on the hill will strike water when it comes to the level of the springy place or before A knowledge of the geological structure of the country furnishes the only means of judging, and this would fail to be a good practical guide in many cases.

To render Surface Waters wholesome.—"E. J. J.," of Geneva Co., N. Y., writes to the *American Agriculturist* that 40 years' experience confirms him in the opinion that *boiling* surface water and allowing it to cool before drinking will thoroughly rid it of any injurious miasmatic, or other effects, so that it will no longer cause diarrhœa, dysentery and similar complaints. Our own experience is similar. Boiling frees water from many impurities, which fact is well known to our soldiers.

Insects to be named.—J. L. Albrecht. The cocoon is that of the Cecropia moth, *Attacus Cecropia*. The caterpillar lives on fruit trees. We know of no attempts to utilize the silk... R. D. Weeks, Essex Co., N. J., sends *Galeruca duodecimpunctata*, the 12-spotted Galeruca. It is own brother to the striped bug, and even more destructive than that pest, as it will attack full-grown leaves of squash vines and rapidly destroy them. We have never seen them in very large numbers, and cleared the vines of them by catching them early in the morning. The insect is of the size and shape of a large Lady-bug, of a dull yellow color with 12 black spots.

Plants for Names.—Lucy Wilson, Flagstaff, Somerset Co., Me., sends a leaf of what appears to be the Day-lily. It is a *Funkia* of some kind. The white-flowered one is *F. subcordata*, and the blue or violet one is *F. ovata*. Both are hardy garden perennials of the easiest culture. Miss W. also sends a wild plant, the *Cassandra calyculata*, or Leather-leaf. It is one of the prettiest small shrubs of our northern bogs. Its buds are largely developed in autumn, and if gathered any time in winter and put in a glass of water in a warm room its beautiful white bell-shaped flowers will soon open..... Mrs. J. A. Walter, sends a strawberry from Utah that is so much crushed we cannot identify it .. A. Hulsey, Lasalle Co., Ill., sends a *Clematis*. We cannot determine whether it is *C. Viorna*, or *C. Pitcheri*, from the specimen. Send the fruit...."E. C. H.", Mt. Kisco, N. Y.,

sends the common Juniper, *Juniperus communis*.... D. T. Marston, sends from Camp near Newbern, N. C., *Passiflora incarnata*, one of our native Passion-Flowers. It is very pretty as a garden climber, and the roots endure the winter around New-York city... I. N. Kanaga, specimen broken up—but appears to be *Stylophorum diphyllum*, the Celandine Poppy..." C. B. S.", Waushara Co., Wis., sends *Castilleia coccinea*, the common Painted-cup.

Crop Prospects.

Reports now coming in from all parts of the country indicate on the whole favorable harvests. From some sections the accounts are glowing—people being hardly able to estimate the great yield of wheat and oats. This is true of parts of Pennsylvania at any rate, and good crops are reported from Maryland, and West Virginia. Throughout Ohio, Indiana and Kentucky the wheat has suffered "in streaks" from drouth, and in some counties the estimates are of ¼ to ⅓ of a crop. In some places the winter wheat was much hurt by the frost and subsequently the drouth nearly finished it.

The rains in June came just in time to save the oats and other spring grain—and in many sections they filled well. There are few complaints of either rust or fly; though there are some serious ones.

Our correspondents in Michigan represented very severe drouth in June followed by a hard frost "adding death to desolation." These reports were followed by others chronicling abundant rains. Similar reports come from the Far West, Wisconsin, Iowa, Minnesota, the rains however coming in time to add half to two-thirds to the value of the crops. The Monthly Bulletin of the Department of Agriculture last month estimated two-thirds of a crop of wheat the country through.

In this State and New Jersey, agricultural prospects were fair throughout, until within the past month, and rains coming soon would retreive the failing fortunes of the farmers. Corn is just beginning to suffer. So with fruit, though blackberries and raspberries are drying on the vines. We get very bad reports from the hop growers; mildew and aphis add their blight to other unfavorable circumstances, and more than half a crop can hardly be anticipated. A fair crop of hay was well secured (not damaged by *rain*, at least). In New England, rye generally turned out pretty well, and as to corn and hay the same remarks apply. So far (up to the 16th of July), in our opinion, we may count upon but little less than an average yield of farm produce generally; though a continuation of the drouth a few days longer will make serious differences. The damage is already great.

Sundry Humbugs—J. H. Tuttle.

Many readers of the *Agriculturist*, who have received letters from J. H. Tuttle, announcing that he had a package at Tuttle's Corners, which would be sent on receipt of 35 cents (modest Tuttle), will be interested in the following notice. It is from the "United States Mail," a paper devoted to Post Office matters and published under the sanction of the Post-Master General —

"TUTTLE'S CORNERS."—Look out for swindling circulars dated at Tuttle's Corners, N. J., stating that one J. H. Tuttle of that place, has a sealed package for the individual to whom the circular is sent, which he will forward on the receipt of a specified sum. The "sealed package" (sealed by the ingenious J. H. T. himself) consists of a trashy book, not worth 5 cents, and the whole operation is the scheme of a rascal too lazy to earn an honest living. There is now no post office called Tuttle's Corners,—it having been discontinued in April last by the Postmaster General.

The Post Office Department will not allow of any abuses which it can prevent, and if our readers suspect their postmaster of any complicity with the circulars with which the country is flooded (some of them even slipped into our own paper), they should show him this notice and inform him that there will be a detective after him.

Since Tuttle's Corners were broken up, J. H. T. has removed to New York City, where he will have a wider field of operations, than at the "Corners", *provided* the P. O. detectives don't catch him. It may interest our friends in the country to know that many of these swindlers who operate through the post office, and ask their victims to direct to such a street and number, often use the direction of honest people and wait daily upon the side-walk for the letter-carrier. They have "a name" but no "local habitation." Some furnish the carriers with lists of the several *aliases* to which they have letters directed. Look out for all unknown correspondents.

The schemes, to transfer money from one pocket to another, of Hammett & Co., and Egerton & Co., of this city, have been sent us by several readers. The special agent of the P. O. department informs us in writing, that these people have no boxes in the general post office of this city. You—the reader—are a sensible person. If you could make in some way $10 or $100 a day, would you advertise to sell your secret for 50 cents or a dollar? Could you transmute base metals to gold, would you sell your secret for $1, or would you not make all the gold you needed yourself first, and dispose of the "secret" afterwards? Cannot the leaders of the *Agriculturist* give us credit for all our previous teaching and consider themselves humbug-proof?—Let quack doctors, lottery and gift enterprise dealers, Mr. Dr. Freeman, and the whole horde of gold transmuters, swindling gold mining, tea, and other companies, humbug express parcel senders, and the whole crew of thieves, cheats and swindlers know that whoever takes the *Agriculturist* is not to be caught in any trap of the kind, be it ever so nicely baited. Let every head of a family and every teacher warn the young against all swindlers who offer more than a dollar's worth for a dollar, *no matter in what paper* he advertises, or in how cunning a guise he may come.

The Care of Our Sick and Wounded.

THIRD LETTER FROM MR. JUDD.

CITY POINT, VA., (on James River,) July 2, 1864.

My stay among the wounded, designed for a week or two at first, has now extended to nine weeks, and I can hardly yet leave the good work, though duty to our large family of readers, and business correspondence, will impel me to soon leave this field to others. Hundreds of noble spirits have come and worked, and returned worn out; a kind Providence has thus far preserved me in remarkably good health. Our wounded men are fast decreasing in number, the terrible, hot, dry weather, is in a measure suspending active fighting, and just now we are turning our chief energies to securing the health of our men at the front. For a week past, I have been at the front lines around Petersburg, aiding in distributing pickles, vegetables, etc., in the trenches, and a world of good is being done. Said Gen. Smith to me a week since, "The sick and wounded in the hospitals are comparatively happy and well taken care of; an onion or pickle or two, or some fresh potatoes given to a man in yonder trenches may improve his digestion, recruit his health, and thus save us an efficient soldier, and you the care of an extra loan in the hospitals." This remark, which was confirmed by other Corps Commanders, Gens. Burnside, Hancock, and Warren, led to still greater exertions on the part of the Sanitary Commission, to supply fresh vegetables, pickles, etc., to the men at the front. I am now waiting the loading up of a long train of wagons with which we shall go out to the trenches, and as I shall be more exposed to danger than hitherto, I merely write this closing note upon the labors of the past two months.

Following the army movements, we left White House, where my last letter was dated, and came round to this point, 100 miles up the James at the mouth of the Appomattox river. Our labors here have been arduous. About 8,000 wounded and sick men have been brought back from the front around Petersburg, and placed in tents on high ground on the south bank of the Appomatox, 1¼ miles from here. (See II, on map.) Hospital boats, to carry them North, have occupied the only available landing on the Appomatox, so that our boats have necessarily remained here. The Sanitary Agents have had 8 tents established among the hospitals, and a large force of men going among the wounded, giving the same care that I described in my previous letter. The comforts afforded, the suffering alleviated, the lives saved by these deeds, are not to be reckoned in figures. Here, too, the work of the Commission has alone repaid all that has been done or may be done to supply funds to its coffers.

I rejoice that I came hither. The memory of the past two months will be the brightest spot in my life. Others are coming to take the places of such of us as are compelled to leave, by business or want of health, and they will enjoy the work. I have met many a noble companion—old school-mates—men of wealth leaving their comfortable homes, and working here night and day—ministers—college professors—indeed men from all ranks. As we meet hereafter we shall refer to these days with pleasure. I have not time or room to speak individually of the laborious officers of the Commission upon whom has devolved the responsibility of forwarding supplies, and managing the distribution—of Dr. Douglass, Chief Inspector, of Major Frank B. Fay, Chief of the Auxiliary Relief Corps, of Dr. Smith, Dr. Parish, Dr. Steiner, Dr. Fairchild, Messrs. Anderson, Williams, Johnson, Mossman, Clampitt, De Bose, Evans, Doolittle, and a host of earnest and laborious clerks and assistants; of Drs. Agnew, Johnson, and Knapp, Messrs. Strong, Bowne, Hovey, Cauldwell, and many others who are engaged at different points, gathering and forwarding supplies, etc. Their good works will follow them. I must not forget my good friends Mr. and Mrs. Holstein, who left a comfortable home in Pennsylvania, and are giving their whole time to the care of the sick and wounded. How many thousands will remember the cups of coffee, lemonade, punch, etc., and the food prepared by their own hands, given out by Mrs. Holstein and her niece. —I ought here to name hundreds of others also, as friends Bradish, Hyde, Sperry, Brooks, Dennison, Lighthight, Le Baron, Potter, "Uncle John" Vassar, etc., but have neither time nor space. War is awful at best, but no previous war was ever so shorn of its horrors, as that now waging. To all who have helped by work or money contributions to aid the soldiers I desire in the name and behalf of tens of thousands of wounded and sick, to offer you their warmest and most heartfelt thanks, as I do for myself, also, because of the means you gave, through which I, as one of the workers, have been able to do and enjoy so much during the past two months. ORANGE JUDD.

P. S.—The U. S. Sanitary Commission have expended in their labors during the past two months **$525,000!** and I can well understand how the money has been used. Here are a few of the Sanitary things we have just distributed to the fighting men at the front, to *keep* them well: Canned tomatoes, 207,156 pounds (over 103 tons); canned fruit, 15,060 pounds; canned jellies, 574 pounds; pickled cucumbers, 36,273 gallons (about 1,200 barrels); pickled onions, 13,344 gallons; pickled tomatoes, 4,719 gallons; curried cabbage, 1,166 gallons; sauerkraut, 16,218 gallons; fresh onions, 100 barrels; potatoes, 70 barrels; dried apples, 242 barrels; other dried fruit; 32 barrels, lemons, 301 boxes; portable lemonade, 2,400 boxes, oranges, 25 boxes; etc. O. J.

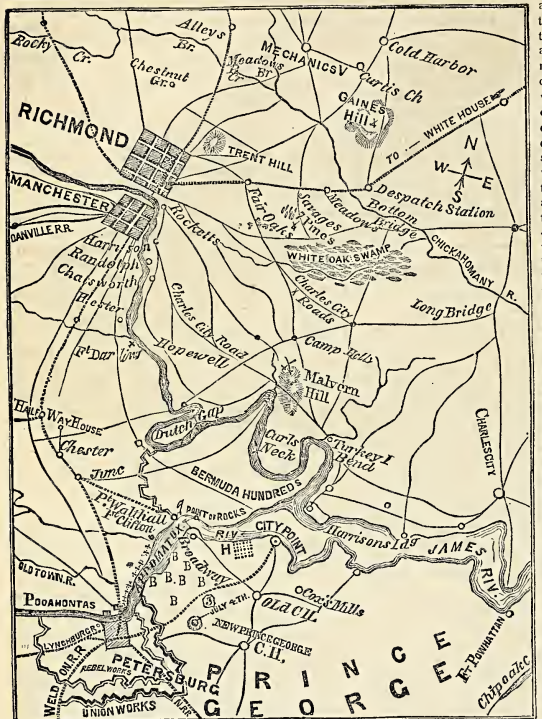
Notes from the Battle Field.

FOURTH LETTER FROM MR. JUDD.

Near Petersburg, Va., July 4th, 1864.*

In the map sketch herewith [see next page] I mark with a circle the point where I now sit writing—under the shade of a large tree—on the lawn of the noted Country Seat of Mr. Friend, of the old firm of "Friend & Scott," of Petersburg, Va. Account books in the Mansion show the dealings of the firm back to 1799.—This point is about 4,400 yards North N. E. from the centre of Petersburg, which is in so full view, that I can, with a small pocket glass now read 3 o'clock P. M., on the city clock. These grounds are just now the Head-quarters of Maj. Gen. W. F. Smith ("Baldy Smith"), Commanding 18th and part of 10th Army Corps. The location is a very commanding one. From where I sit I can plainly see our advanced lines of earth-works in the valley, 1¼ miles toward the city, stretching from the Ap-po-mat'-ox river, eastward, then in a zigzag course around the city to the south. There are few trees in the valley or plain between this point and the city, while to the left and most of the way round, the lines are in the woods or hidden by groves. The enemy's lines lie just beyond our own. Without actually seeing them, one can form little idea of the immensity of these earthworks. The front line consists of a continuous bank of earth thrown up, very zigzag in its course, and extending five or six miles. At brief intervals are Lunettes or Forts with embrasures for cannon. Every available knoll or high ridge, or point of land, is taken advantage of for batteries; and every creek, valley, or low spot furnishes a shelter where the men may encamp under small tents, cook, eat, sleep, etc., and be ready at a moment's warning to meet an attack upon the front, and to exchange places with (relieve) those in the front trenches or works. On both sides, sharp-shooters, stationed in trees and other hidden spots, are ever on the lookout to pick off any one who for a moment exposes any part of his body in sight. (I had a rather *close* intimation that one of them saw me nearly a mile off.) Not a minute passes during any day when one can not hear the cracking of their rifles, and if near enough the shrill whistle of the bullet through the air; while at night the advanced lines of pickets or skirmishers keep up an incessant firing as if to let each other know they are there and awake. I have slept at this point (or tried to) five different nights, and seldom counted less than 35 to 50 muskets fired in a minute, in the woods at the left of me. The other evening the firing increased from fifty to a hundred per minute, then faster, then suddenly burst out into a continuous roll, which sounded like a hundred bunches of great fire crackers set off in as many empty hogsheads. This continued for 25 or 30 minutes, with cannon and mortars chiming in every few seconds. I could only hear the noise and see the flashes above the woods; ignorance of what was the ca-

* Since the above date Mr. Judd returned very unexpectedly. His exertions to supply the men in the trenches with Sanitary stores, added to his previous labors, and the intense heat, brought on a prostrating disease which has confined him to his bed since his arrival home. For some days his illness threatened to be serious, but the readers of the *Agriculturist* will be glad to hear that he is improving at the time we go to press. This statement will explain why many business, personal and other letters still remain unanswered. ASSOCIATE EDITOR.



MAP OF THE VICINITY OF PETERSBURG AND RICHMOND—JULY 4TH, 1864.

ture of the conflict, only made the scene more thrilling. Presently all was as quiet and calm as death. I have only learned that with all this din, and the firing of tens of thousands of bullets, there were but few casualties on our side.—Day and night, cannons and mortars are "exchanging" compliments frequently.

I have spoken only of the *front* line of works. Back of these is another line, where many of the troops remain, except when called into action. In front of the advanced line, pickets, or skirmishers are thrown out several rods, or hundreds of feet where the nature of the ground prevents the opposing lines from coming very near each other. These men lie crouched behind little banks of earth, or in holes dug in the ground (called "gopher holes,") and they remain here to give warning of the approach of any considerable force of the enemy. They must keep carefully concealed, especially by day, casting only stealthy but watchful glances at the enemy, though the pickets frequently agree not to fire upon each other, and then they sometimes chat freely, and trade tobacco, coffee, etc., by throwing these articles over into each other's holes. The whole country for 4 miles around Petersburg, is literally full of fortifications or lines of earthworks, built by the enemy prior to our arrival. Two strong lines of these are *outside* of where I now sit. It is yet a marvel to me, how our troops advanced so far toward the city. It would seem as if a few thousand men behind these embankments, all of which have a clear sweep of open ground before them, could have resisted the approach of an immense army. I have seen no other spot in my life, in this country or Europe, which will so well repay a visit immediately after the war is over, as the region a mile or two north and east, and four or five miles south of this point—including the ground within and up to the city.

This hill affords the finest view imaginable, night or day, for one who has the curiosity to see the actual work of investing a city, and whose nerves are not too weak to allow him to listen to bullets, shells and cannon balls flying in front of and around him, and sometime in pretty close proximity. One, however, soon gets used to these things. I have been forward in the trenches several days, distributing pickles, pickled onions, lemons, canned tomatoes, fresh potatoes and onions, etc., which the Sanitary Commission is now sending forward in large quantities to the exposed fighting men—and with a delight and health-giving comfort to the soldiers worth a thousand times the cost—and I can appreciate how men become inured to danger. At first, the whistling of bullets just over my head, the shee-e-ooe, shee-e-ooe-shee-e-e-e of a rifled cannon shell through the air, would cause a start, but the coolness of the men around me—I may say their perfect indifference—was soon catching, and the frequent remark that in actual battle not one bullet in 500 hits, and that here the chances of being hit were much less, have led me to feel almost indifferent to the fact that any one of the long rows of the enemy's cannon just over the river could send a shell right here or even two miles beyond me. (I send for the *Agriculturist* table a solid "Whitworth" cannon bolt, that struck in the corn field just west of here, ricocheted (*ree-co-shay'-ed*)—or glanced from the ground—two or three times, and dropped near my feet. Also with it is a 10-pound rifle-shell, sent from over the river—perhaps by one of my old subscribers—which came quite near me while giving out some Sanitary stores to our sick men in Battery No. 5, just north of this. It didn't explode, and I will keep it for the owner to call for, minus the powder which is washed out. No special thanks to the sender, if he meant it for me—I prefer softer compliments, as a rule.)

The reader will please come in imagination and sit with me at this point, and let us glance over the surrounding scenery on this 4th of July afternoon. Yonder, in the southwest, is Petersburg, which appears quite near, as we look over the lower land intervening. The Appomatox coming out from the town, runs by us on the west. Its banks are wooded, but on the high ground on the other side are plenty of the enemy's cannon pointing out towards us, through embrasures in earth-works. Many of these are partly hidden by woods, but others are readily seen. (They are indicated on the map.) Away up, apparently near the city, heavy embankments stretch across the plain before us. We see some of our men moving about, but most of them are down in here in the embankment, and in ditches cut out; otherwise they would be picked off by sharp-shooters who occupy the woody opposite bank of the narrow river, and they are also exposed to an enfilading fire from those frowning batteries on yonder bank, just described. Just beyond our front line we see a parallel line of bushes, which cover the enemy's advanced works. Back this way is our second line on lower ground. The only way to reach these lines safely, is to go up through the deep railroad cut, or by a round-about way from the left, along a brook. The relieving of the men, the carrying in of provisions, etc., is mainly done during the darkness of night.

Looking to the left of Petersburg, we see little but woods into and through which our lines extend, coming up toward us, on the left, and then bending south. In a hollow just about south of us, a hundred rods off, is an encampment of our men in reserve. The 2,000 or 3,000 seen here, is the largest portion of our great army to be observed at any one point. A new comer here was quite disappointed in not seeing the two great armies arrayed in full view. Farther around to our left, southeast, is high land, partly wooded, and cut up with the enemy's original lines, from which they were driven June 16 and 17.

Turning to the west we see our own batteries (fronted by banks of earth,) beginning where our front line touches the river and scattering along up the bank northward for two miles or more, and mostly on lower ground than our point of observation, so that we look down into them and see all their operations, as well as those of the enemy on the higher opposite bank. Just against us, on the river, is a mortar battery sunk quite below the surface in a large pit, to be out of the reach of sharp-shooters. Every now and then a bomb shell rises out of this, goes far up into the air, curves over to the southwest, and falls exploding near the enemy's railway station, opposite to and down the river a little from Petersburg.—The places of some of these batteries are indicated by B, B, B, on the sketch. [In copying the sketch the engraver has placed these letters, also Battery No. 5, and Mr. Judd's place of observation, all too far toward City Point. Battery 5 is one-third the direct distance from Petersburg to City Point.]

Several batteries about north of us, are on high plots of ground, nearly on a level both with Petersburg, and with the batterics across the river. Twice I have chanced to see nearly all these batteries in full play. First the enemy over the river opened upon the rear of our men in the trenches. In a moment all the batteries, B, B, B, etc., began hurling shells upon them. The firing was, to me, marvelous. Almost every shell, a dozen or twenty a minute, appeared to burst right in or over the offending batteries. They turned their guns upon us, but in less than an hour every one sunk into silence, and not a man was to be seen around them. Few better opportunities ever occur to witness, close at hand, an actual duel between a large number of heavy guns.

At night, the view from this point is sometimes magnificent. Over the plain may be seen shells from mortars and cannon cutting the air in all directions. Now one seems coming directly to you, but it passes to the right or left toward some of our works, and bursts with a loud crash apparently behind you. Sometimes there is almost total silence for several hours, save the *picket* firing southward, when as if by concert a thunder and crash of cannon and exploding shells, and the meteor-like trail of fuse-shell through the air, fairly light up the whole scene. An hour afterward all is quiet again.

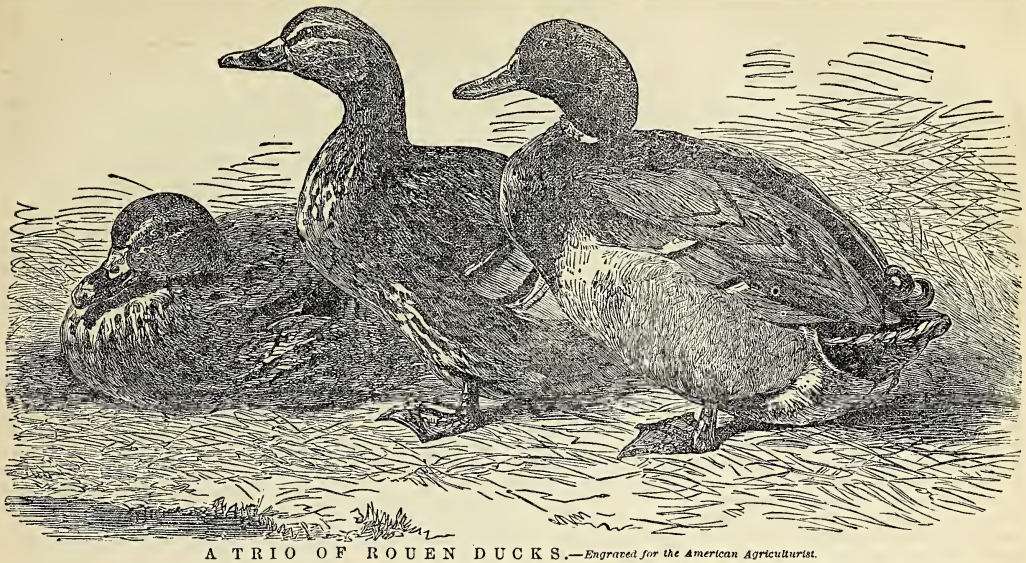
There are comparatively few shells thrown into the city, though, if so disposed, our numerous batteries around it could tear it in pieces, or burn it to the ground at any hour. I believe, the orders are to fire frequently at the Railroad Station and bridge, and to drop an occasional shell or ball here and there, just to prevent the city being used as a too convenient military encampment by the enemy. This is done from three or four points, and especially by Battery No. 5, just north of us, which is called the "Petersburg Express," from the fact that it sends regularly into the city, every quarter hour, night and day, an express dispatch in the form of a 30-pound Parrot percussion shell. (I noticed that to fire this distance, 4,800 yards, they elevate the cannon 15½°, as the ball goes in a curve, and use 3½ lbs. of powder for the 30 lb. shell. It takes 20 seconds to reach the city. The report of the explosion is heard in twelve seconds after its light is seen.) At noon to-day, the "National Salute" consisted of 34 of these missiles sent in rapid succession to the Petersburg Railroad office.

Before closing, I must say one word for our men. I have been much among them for a week past, visited them in their camps, trenches, forts, and in their "holes" in the ground, and a more cheerful, courageous, hopeful set of men never existed. They have all confidence and patience. They expect to win, and intend to—and there are a great many more of them, than is generally supposed, as I happen to know from having helped distribute hundreds of barrels of pickles, fresh vegetables, etc., and estimate how they were to be supplied. Some idea of the vastness of our army may be gathered from a remark of Gen. Grant, when we stated that we had 800 barrels of pickles ready at one time, which would give a large supply to each man. Said he: "This little family of ours will carry the 800 barrels all off in their pockets," and on a calculation, we found this was no joke, but a fact.

I may add here, that I see our losses greatly magnified in some of the Northern papers. I have been with all the wounded who have been sent to the rear since the army crossed the Rapidan two months ago. During all that time our loss in men actually killed, and those maimed for life, will not exceed the loss of the allied armies in a single day at the battle of Waterloo.

The **Map,** in addition to what is above described, gives an outline of the surrounding country. There is Cold Harbor on the northeast, from which the army swung around by the way of Long Bridge, and crossed the James near Fort Powhattan. At *City Point* is the great base of supplies. The James river is nearly a mile wide here. The landing for Bermuda Hundreds is just opposite. I have often counted over 200 steamboats and barges strung along the river at and in sight of City Point, above and below. Monitors and other gunboats in large numbers lie all along the James river, clear up to Dutch Gap, and up the Appomatox river, nearly to Fort Clifton. Bermuda Hundreds in which I include a large peninsula, inclosed by two bends of the James river, is occupied by our forces out to the lines of the fortifications drawn across from river to river. A high signal station at Point of Rocks gave me a splendid view of all the surrounding country for a great distance.

O. J.



A TRIO OF ROUEN DUCKS.—*Engraved for the American Agriculturist.*

Domestic Ducks.

There is a prevalent belief among farmers that ducks are not profitable poultry. This arises naturally from several causes. The habits of indolence which some possess—the tendency not to hunt their food, but to depend upon being fed and the scraps which they pick up about the house—lead farmers to contrast them unfavorably with the wandering turkies, which find their living and rear their young often in the woods, depending only in winter upon the farmer for their food; and scarcely less favorably with dunghill fowls, which during the summer months require but little food except what they hunt for about the farm. The ducks, besides, though some kinds are excellent layers, are heedless birds, exposing themselves, their eggs and young to crows, rats, turtles, and other vermin, dropping their eggs about, shifting their place of laying if disturbed, inconstant as sitters, and chilling their young by taking them too soon, and too often to the water. Still all these objections may be obviated, in a measure, and ducks really pay very well both in flesh and eggs for the amount of food they consume.

The duck is an omnivorous animal—eating almost every thing vegetable and animal that comes in its way. Insects of all kinds, worms, polliwogs, fish, shellfish (dead or alive,) meat, even that which is partly decomposed, and many green vegetables, grass, seeds, grain, etc. Withal, its appetite is voracious, hence it grows rapidly and fattens easily. The common tame duck is supposed to have descended from the wild Mallard duck, *Anas boshas*, common to this country and Europe. It breeds freely with this species, and also with several other species of wild duck; in some cases the progeny is capable of reproduction of its kind, in others mule-birds or "mongrels" result. The fact that a very different class of birds is produced where the Mallards are crossed with other species and where the common duck is so crossed, with other points of difference, throws some doubt on the assertion that the Mallard is the parent of our common ducks. Besides, efforts to domesticate the Mallard have not been successful as a general thing. We have, however, many wild ducks capable of perfect domestication, and the experiment ought to be well tried with all, for thus our stock of domestic poultry may be essentially increased and improved.

The engraving represents a trio of "Rouen" ducks, of great beauty. This breed is the most highly esteemed of all domestic ducks, by many duck breeders. Its habits are quiet, and so it does not wander about and get lost, as ducks often do. It attains a great weight, and is unsurpassed as a layer. An English writer reports that he has frequently known a pair of young drakes 9 or 10 weeks old to weigh 12 lbs. Sundry writers report very remarkable laying performances of the Rouen ducks. One laid an egg a day for 85 days: three ducks from February to July laid 334 eggs, besides a few soft ones and five double eggs. One of these laid every morning for 92 days. The young ducks often lay in autumn a good clutch of eggs, and it not unfrequently occurs that a duck which is a first-rate layer will manifest no tendency to sit. This variety of ducks has in common with many other kinds, great beauty of plumage, which varies somewhat in different individuals. The drakes are heavier than the ducks, but the difference is slight in comparison with the disparity between the sexes in most varieties. The beautiful green heads and necks of the drakes, iridescent with purple and copper hues, set off with a clean white collar and claret colored vest, give them a distinguished air which the various colors and distinct markings of the back and wings does not detract from. The females are brown, each feather being marked with black which gives them a speckled look.

The only variety which really rivals the Rouen as a useful and economical bird is the Aylesbury. These, a purely white English variety, are beautiful birds and highly esteemed in the markets of Great Britain, as also in the United States, where they are known. They are good layers and nurses, not noisy, good feeders, and by some, decidedly preferred to the Rouen. The eggs are white, sometimes inclining to blue, while those of the Rouen duck are blue with thick, strong shells; of the two the Rouen has the reputation of being most hardy. Where ducks are raised for breeders, it is a practice, (founded perhaps on prejudice) to set ducks upon their own eggs; but if the young are wanted for market simply, the eggs are put under hens. Hens will hatch a clutch of duck's eggs some two days quicker than ducks will, but it is thought that the young have not so good constitutions. Young ducks raised for market often get injured by being allowed to go freely to the water. They grow faster and stronger if they only have enough to drink, at least for several weeks.

Prairie Sheep Husbandry.

It has become a very interesting and important question to this country how to increase our supply of home wools. Several parts of this question, for it is readily sub-divided into several minor ones, settle themselves naturally and well. The mutton sheep of heavy carcasses, and of middling or coarse (combing) wool, are bred to advantage where they can have care, protection in winter, and nearness to market. The product of the fine wool sheep possessing great value in small bulk and weight, is more easily transported great distances. Hence the more the blood of the hardy Merinos is blended with the flocks at a distance from the great mutton markets the better. The culture of sheep and production of wool at the far West, and in the States of Illinois, Michigan, Wisconsin, Iowa, etc., is conducted with very considerable profit and invites the attention of practical, hard working, careful men, and clever farmers, as a quick way of gaining a competence, if not ultimately considerable wealth. This is well shown by a writer in the N. W. Christian Advocate, who says:

"He who embarks extensively in sheep husbandry in the older States must buy a large amount of comparatively high-priced land, clear up the forest, fence his land carefully, sow pastures and meadows, build barns for winter stor-

age and for shelter—or buy all these things already fitted to his hand—before he is ready to purchase a flock of sheep to commence his business. All this requires the outlay of much capital. The prairie sheep farmer can commence operations without buying anything but his sheep. Or, if he does not choose to be a pure nomad, he can buy acres for less than the annual interest of acres of the ordinary grazing lands of the old States. His principal necessary capital is a decent knowledge of his business, and enough energy to persevere in it. Thus have started a large majority of the pioneer sheep farmers of the new States. The new settler builds a little log house for himself and wife to sleep in—a rail pen covered with poles and prairie grass, for his "team" and his cows, if he is so fortunate as to own these luxuries—a high yard for a fold, and then he is ready to commence wool-growing! In ten years he can count more sheep, and sometimes more dollars-worth of property, than his Eastern competitor, who commenced with everything prepared to his hand. The rail pen gives place to the stable, and the uncovered fold yard is succeeded by the fold yard and spacious sheds. Fine fields of domestic grass for spring and fall feed, and of luxuriant corn for winter feed, surround the comfortable farm-house. Noble flocks of thousands are driven up nightly by his boys and by the "hired men"—who, in five years more, will be flock-masters themselves!

"Hay made from the domestic grasses—the "tame grasses" as they are called in the West—or clover, is but little known on the praries. The wild grasses make sufficiently good hay, but like the preceding, it probably, in most situations, has a cheaper substitute in Indian corn. The remarkable adaptation of most of our prairie soils to this crop is well known. Eighty bushels of it to the acre would be regarded as a heavy crop anywhere—but an extraordinary one nowhere, on the first-class virgin soils. The stalks properly cut and secured, yield nearly double the feed per acre of the small varieties cultivated in the grazing regions of the Eastern States. Its cultivation, too, on the mellow, weedless, prairie soils can be performed vastly more easily and cheaply. With two-horse corn planters, and two-horse corn plows or cultivators, it is estimated that one man can properly take care of fifty acres of it. It should be cut up before the leaves are injured by frost, and placed in shocks, where it remains until it is drawn out to be fed to the sheep. It is drawn out twice a day and scattered on the ground. One active man, with a suitable wagon and team, and devoting his whole time to it, can feed about two thousand sheep. A firm, sodded field of domestic grass is very desirable to feed on, instead of one of wild grass, which soon becomes "poached" and muddy in wet weather. If the field is large enough to change the feeding places often, very little of the corn is wasted. Some farmers in place of cutting up the corn and drawing it out in this way, leave it standing in the hill, and fold the sheep on it a couple of hours twice a day, but it is a wasteful mode, for the frost-bitten fodder is much less valuable than cured.

"The sheep are generally wintered in the feeding fields without shelter, and even the farmers who have sheds do not put their flocks into them except in very stormy nights, and at lambing time. Those who have a sufficient number of feeding fields, divide the sheep in the beginning of winter into three or four lots. When this is impracticable, the lambs are merely separated from the flock, and all the rest run together. This last is very objectionable management, as it leaves the weaker and smaller to be pushed about and driven from the choicer portions of the feed by the strong, heavy wethers. Most flock-masters aim, however, to draft occasionally from the flock any that become poor or feeble, and to make some separate arrangement for them. The object of the prairie farmer is to have his sheep consume as much corn as practicable; for it is more profitable to convert it into animal products than to sell it at ten cents a bushel. A good sized grade Merino fed exclusively on it will consume and waste from three to three-and-a-half or four bushels during the winter, and the stalks on which it grew. If the corn is good, the proportion of ears to stalks is greater than it should be for the benefit of the sheep. Some farmers provide for this by making enough "tame hay" to give their sheep one feed a day; some make a quantity of prairie hay; and others, instead of burning their wheat straw, according to a prevalent, wasteful method, thrash and stack it in the feeding lot, so that the sheep can get to it at will, or so it can be conveniently fed to them when necessary. If the straw should be slightly brined when stacked, and the sheep be fed salt in no other way, it would prove an acceptable fodder for them, and would be sufficiently nutritious to meet their wants when accompanied with so much corn."

However objectionable the practice is of exposing sheep during northern winters, to rain, sleet and snow, the general freedom of these flocks from disease argues in favor of the practice. Many lambs are unavoidably lost and severe colds and influenzas occasionally prevail, yet on the whole, the sheep are very healthy. The better the barns or sheds are, under which yeaning ewes and young lambs are protected, the less will be the loss of lambs and the greater the profits. The prairies of the West offer rare inducements to young and energetic foreigners who have a little capital and aim to become good citizens of the Great Republic. The thousands who are forced to occupy almost or quite servile positions in our Eastern cities might soon become property holders and, if possessed of good principles, respected citizens.

A Grand Manure Pile.

We saw a few days since a pile of many loads of muck covering the carcasses of 100 horses. The farmer on whose land it is, gives a small price per head to a man who removes the old, worn out horses from this city, takes them upon his farm and kills them, retaining their hides, hoofs, and shinbones. The rest of the carcass, left upon the ground, is cut up somewhat and covered liberally with muck. Little odor which can be noticed at a distance of a few rods, arises from this heap, and none at all which a slight addition of soil or muck will not arrest;—this at the heat of summer. In the cool weather of autumn the heap will be worked over, mingled with more muck, the undecomposed bones thrown out, and the rest laid up for a finishing fermentation. We are interested to know accurately the results of some similar experiments, to come at the best methods of managing this valuable and commonly wasted material,—namely, how much muck to use; the quantity of soil, in case muck can not be got; the amount and value of the manure made from a certain number of animal carcasses, or a certain weight of the same, compared with an equal quantity of good stall manure. At present we only know that dead animals furnish a very excellent manure at a very low price.

The "Rescue" Grass—Don't get Caught.

The French have a new agricultural hobby; this time it is a grass which comes all the way from North America—"Rescue grass." M. Lavalle has presented to the Imperial and Central Agricultural Society of France, a "*Memoire*" upon *Brome de Schrader* or "Rescue Grass," in which it is set forth that the amount of green feed produced per acre is something wonderful, and that cattle fed upon it have the quantity of their milk greatly increased, though nothing is said of its quality. The "memoire" is said to have made quite a stir in the agricultural circles in France, and the French seedsmen have already sent over here for a quantity of the seed, which they probably will not get, as the grass is not known to the northern States. The plant in question is *Bromus unioloides*, and *Brome de Schrader* is the French for *Bromus Schraderi*, another name for the same grass. How the name "Rescue grass" came to be attached to it, it is difficult to say. (It should not be confounded with Fescue, which belongs to an entirely different genus.) This grass grows sparingly in Texas and the adjacent parts of Mexico, and we had a specimen sent some years ago from Georgia, but doubt if it is a native of that State. If this Bromus is worth cultivating it is the only one of the genus that is so. At any rate it will probably be puffed and be sold at a high price. Willard's Bromus came out about ten years ago and some people who paid large prices for the seed found out that it was only chess, a *cheat* in a double sense. This newly talked of grass is own brother to chess. It *may* prove valuable, if it does so we shall find it out and let our readers know it, and meanwhile they are advised not to invest much in "Rescue grass."

Wagons and Wagon Wheels.

This subject which was touched upon a few months since in this journal, has brought out several communications. From one of these from Elliott H. Angell, of Ingham Co., Mich., we condense the following, which describes a wagon in use in his vicinity, some parts of which are patented.

"For the benefit of the readers of the *American Agriculturist*, and to induce others to tax their inventive minds for still greater improvements in wheel vehicles, allow me to name some of the advantages in a wagon built on a plan invented by a citizen of this County. The wheels moves straight forward; the face of the tire lies flat upon the ground and is parallel with the centre of the axle. It has four separate cast steel axles; each tight in a cast iron hub of the wheel. These axles bear upon as many friction wheels, one foot in diameter, thus dispensing with nearly all of the friction. The wheels are larger than ordinary wagon wheels, giving greater leverage. The wagon-box (and load) is considerably lower, and the draft is lower than in common wagons. There is no "gather" to the wheels. A self-acting break is attached. The wagon is light and strong and there is no "shake" to the tongue, yet a slight side pressure upon the tongue will guide the vehicle readily. There are no skeins or boxes to wear out; it can be made at less expense than ordinary wagons of the same capacity.

Carriage makers set the wheels on the axles with what they call a "gather," that is they set

them so that if rolled straight as they stand on the wagon, each wheel would roll to the center of the track in going from eight to ten rods. This is done to have the wheels crowd the "shoulder" instead of the "burr," or linch-pin. Now I submit to any candid mind whether it takes more power to roll the wheel the eight or ten rods, or shove it sidewise the two fect three inches. There is then a loss of power which certainly adds much to the burthen sustained by the team. In the wagon described, all this is saved by the wheels moving in a straight line without "gather."

Every wheel and axle is a lever or system of levers and a fulcrum, no matter where or how they be used. The outer edge is the long arm of the lever or where power is applied (as in a water-wheel); the center is the fulcrum, and the friction is at the lower side of the axle, between the fulcrum and power (the ground is the power; the friction, the weight). In the new plan, the friction is on the top of the axle, and the spokes being two inches longer, there is an advantage of about six inches in leverage; the fulcrum is placed between the power and weight—another mechanical advantage. In addition to this, the upper side of the axle acts on the rollers or small wheels, one foot in diameter, and these turn round but thirty-two times in a mile, thus operating by a compound lever, and greatly lessening the friction. There is one wagon in this place that has been in almost constant use for eight months and has been tested in many ways. On a hard, smooth road less than half the power will draw it with or without a load; in muddy or bad roads it requires about two thirds the team that would be required were a common wagon used to draw an equal load. There s no piece of mechanism in use amoug civilized men more useful than a wagou, and I have given you this imperfect description to invite talent in this direction: though this is a decided improvement, yet there is a chance for still further improvement. Will not mechanics look into this, and at least compete in manufacturing?"

Cheese-Making in Small Dairies.

So much has been said lately about the Factory system of cheese-making, and the products of a few large dairies, that we lose sight of the multitute of small dairies of a dozen cows or less, which supply no unimportant share of all the cheese for market, and especially for home consumption. There are many persons who regard cheese-making as a mysterious art, and for fear of failure do not uudertake it. There is to be sure a great advantage in experience, and this every dairywoman must gain for herself, nevertheless there need be little fear of wasting much milk, when a common sense woman attempts to make cheese, even on a small scale. If any one is about to undertake to make cheese and has no previous knowledge of the subject, it would of course be best for her to visit some good dairy and learn what she can from the dairy-women, before undertaking it on her own account. The kind of cheese usually made in the United States is what would be called "English" cheese. Though there are many different kinds made in England, the cheeses of that country differ so much from those of the continent, that ours would be classified with them. As to the production of the cheese closely resembling those of coutinental Europe—Dutch, French, German, Swiss, etc., of which there are probably 50 entirely distinct kinds—we conceive that there is no difficulty at all; and moreover assure our readers of foreign birth and training, that even passable imitations of those kinds which are imported would meet a ready sale at high prices.

Without discussing the economy of making cheese from a very small number of cows, we merely now consider the method and results. The following process is usually adopted. The night's milk is set in shallow tin paus in a cool place. Butter being an object as well as cheese, the milk should not be more than two or three inches deep. In the morning, while the milking is going on, the night's milk is skimmed and warmed in a brass kettle to the temperature of new milk. The new milk having been brought in, old and new are then mixed in a tub of suitable size. (If the weather is so cool that the milk will not sour, it may be kept over one day, and there will be three milkings of old and one of new milk.) When the milk is thus made ready the "cheese is set," that is, the rennet is added, and it is allowed to stand quietly for half an hour, for the "curd to come." Arnotto also is added for coloring, if desired. The rennet consists of the salted and dried stomach of the calf. This is prepared for use by soaking in water or whey in the "rennet pot." The quantity of the liquid required to "bring the curd" is fixed by trial, and more is added, if it does not coagulate in time. When the curd has "come," it is carefully cut across both ways with a one bladed wooden knife, or better with one of steel with four blades. It is then allowed to stand for the whey to separate, which is slowly dipped off, and the curd gently worked with the hand to favor the separation of the whey. To make the curd more firm, some of the whey is warmed in a kettle and poured upon the curd again. This is what is called "sealding the cheese," a misnomer to which must be charged more poor cheese than to any other cause, except perhaps the neglect to cleanse properly all the dairy utensils. The whey for "*scalding*" should be ouly slightly warm to the hand, that is, not much more than 100° F. The hotter the whey is, the less time is required for the operation, hence there is a temptation to employ hot whey instead of that moderately warm only, as just stated. When this process is completed, the curd is dipped into a strainer, spread in an open basket or box for salting. Then more whey drains out and salt is added, nearly one ounce to ten pounds of curd, and thoroughly mixed. It is now ready for the press, or it may be wrapped in the strainer, a weight placed upon it and kept to go with the next day's curd to make a "double curded cheese."

When this is desired, the curd thus prepared, and not salted, is kept until the new curd is ready, and then it is cut very fine and mixed with it. Some prefer to take the curd when ready for sealding, and hang it up to drain in a strainer. This curd cut up fine is added to the new curd, when both are "scalded" and salted. A cap fitting the inside of the press-hoop, or a strainer cloth is used to hold the curd when it is put in the press for pressing. It is changed at the end of twelve or twenty four hours, the edges if necessary are pared and again pressed. The pressure, either from a lever or screw, should be light at first, but afterwards very heavy. When the cheese comes from the press, it should be capped with thin cotton cloth made for the purpose; or these caps are pressed in. Repeated turnings, greasings, and rubbings to keep the cheese from mould and from getting out of shape while curing, complete the process. The temperature of the curing room has much influence on the cheese. A kitchen is rather too warm, and in a cold, damp room they cure too slowly and are apt to mould. Now in this way just as good cheese for eating is made in dairies from two to six cows as in those of greater pretensions; in fact, some of the best cheese the writer has ever eaten was made from the milk of two cows. Some of the most successfull dairy women too, have been those who have taken up the business without previous trainiug, but possessed of good sense and habits of neatness; they have mastered all the "mysteries of cheese making," so that a "*huffy* cheese" or a "cracked cheese," or a "sour cheese," or a "strong cheese," or a "white oak cheese" was unknown on their shelves.

A Woman's Experience with a Kicking Heifer.

Dear Agriculturist.—I'm a very green farmeress, on a little place of twenty acres, and "no man to it" but my father, most eighty years old,—a doctor all his life at that. With a little help about the frame I have made a hot bed after your model, and am right proud of the cabbages, cauliflowers, cucumbers, &c., started in it, and my Hubbard squashes are charming.

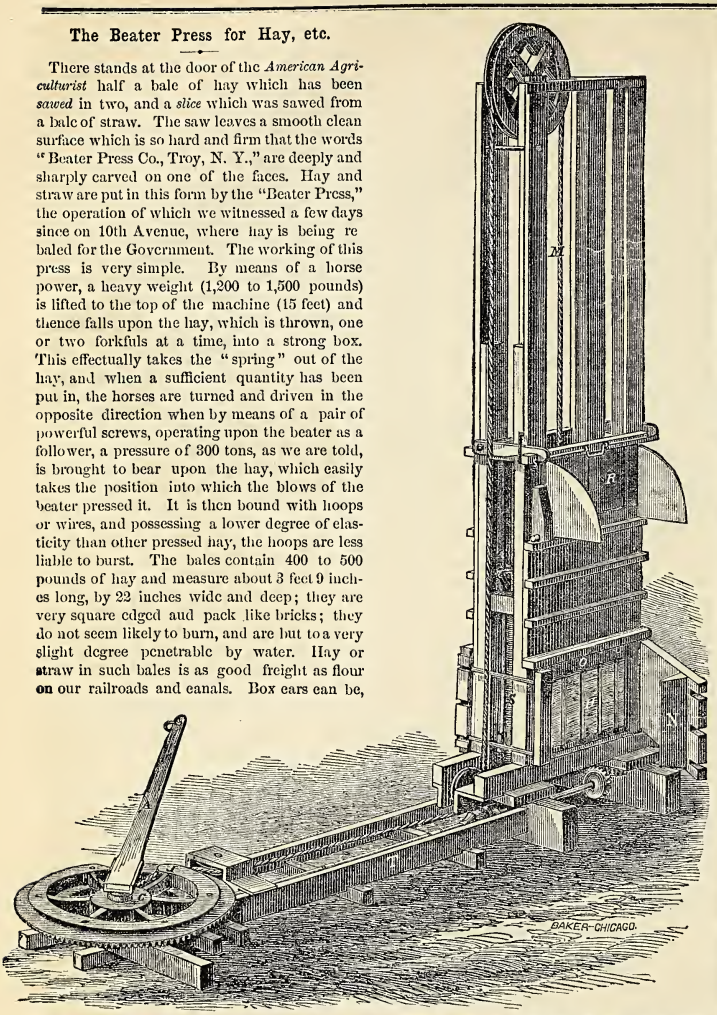
I venture to send you a brief notice of my experience in milking a heifer that had an unfortunate way of lifting her foot, disastrous in its consequences, and my remedy for it, which I have not noticed in the *Agriculturist*.

"Daisy" is a heifer four years old, worth about one hundred dollars, but not for sale at that, or any price. She wasn't used to women, and I—wasn't used to cows. I learned to milk in one lesson, on a gentle old cow in the neighborhood, but I was mortally afraid of Daisy, and she would empty the contents of the pail over me, and send me flying like a foot ball or any other projectile. Now I'm *nothing* if not dignified; I was once introduced to a candidate for the Presideucy, and to be manufactured into a sort of shooting star, *in a milky way*, was depressing in the extreme. I perused the *Agriculturist*, and got a man to tie her fore foot up, whereupon she laid down—other remedies proved ineffectual, or were not suited to the case, when almost in despair I learned that somebody tied the two hind legs together.—I double a bit of rope, a little more than a yard and a half long, tie a knot in the middle-noose around one leg just above the foot, and tie the other with the ends of the rope. She can't kick, how can she? It doesn't seem to hurt her feelings in the least, putting on, or taking off, or wearing it, and I milk in peace, and wish the remedy may do any one else as much good as it has me. I must add, that Daisy and I are on the best of terms now. R. F. H.

"Dirt Floors" for Stables.—In summer the feet of horses which are little used, or those used only upon hard pavements or dry roads, often become very dry, hard and hot, especially if they stand upon wood or stone floors. The wood floors are not only dry but they absorb urine, which decomposes, evolves ammonia, and promotes this effect. An approved remedy for this is to take up the wood and lay a stone floor of small cobble-stones in cement, slanting slightly to the rear; then to fill in the stall 6 inches deep at the rear, with sand or sandy loam, leaving it slanting to the front. Enough of this should be removed and renewed daily to give the horse a bed of clean, dry, but not drying, sand. Little bedding will be needed, and the feet will soon gain a natural moistness

The Beater Press for Hay, etc.

There stands at the door of the *American Agriculturist* half a bale of hay which has been *sawed* in two, and a *slice* which was sawed from a bale of straw. The saw leaves a smooth clean surface which is so hard and firm that the words "Beater Press Co., Troy, N. Y.," are deeply and sharply carved on one of the faces. Hay and straw are put in this form by the "Beater Press," the operation of which we witnessed a few days since on 10th Avenue, where hay is being re baled for the Government. The working of this press is very simple. By means of a horse power, a heavy weight (1,200 to 1,500 pounds) is lifted to the top of the machine (15 feet) and thence falls upon the hay, which is thrown, one or two forkfuls at a time, into a strong box. This effectually takes the "spring" out of the hay, and when a sufficient quantity has been put in, the horses are turned and driven in the opposite direction when by means of a pair of powerful screws, operating upon the beater as a follower, a pressure of 300 tons, as we are told, is brought to bear upon the hay, which easily takes the position into which the blows of the beater pressed it. It is then bound with hoops or wires, and possessing a lower degree of elasticity than other pressed hay, the hoops are less liable to burst. The bales contain 400 to 500 pounds of hay and measure about 3 feet 9 inches long, by 22 inches wide and deep; they are very square edged and pack like bricks; they do not seem likely to burn, and are but to a very slight degree penetrable by water. Hay or straw in such bales is as good freight as flour on our railroads and canals. Box cars can be, *loaded* with it, and not merely *half* loaded as is the case with other hay. Vessels trading with foreign countries which often leave our ports in ballast will find this a profitable lading, for not only is it more easily handled than ballast, but very valuable at their destination. Thus we anticipate a foreign market may be opened for our hay as soon as the rebellion is put down.



THE BEATER PRESS.—Showing the perpendicular guides of the beater, which is raised by a rope passing from the horse-power over the wheel at the top;—the box above the mould, into which the hay is thrown;—the mould, represented open, containing a bale of hay—and one of the screws on the side of the box and mould, by which the final pressure is applied.

The application of the beating principle is very wide. The pressing of cotton, hemp, flax, oakum, hops, husks, corn fodder, sorghum, leaves, rags, wool, etc., will suggest itself to every one. Spent tan bark, saw dust, shavings, etc., have been successfully experimented with, and a compact fuel thus formed; besides, we have suggested to the proprietors its applicability to pressing *peat*, which abounds in some parts of the country, into a compact and marketable fuel, as another means of affecting the present extortions of the coal monopolies.

At present all the presses made by the Company are in the employ of the government; about two bales of hay are put into one, which operation increases the value at least 5 dollars per ton. The danger from fire, and injury from water are so decreased, that it is confidently asserted that hay thus baled will neither burn, nor will soaking in a river wet more than a couple of inches into the bale. It is also asserted that it does not require housing; that it may be pressed in the field even less dry than would be deemed necessary for stacking or housing, and that it does not mould. Several railroad companies have already announced that they will soon adopt a rule that hay and straw shall only be transported in *box cars*. This will amount to a refusal of hay pressed in any other way, and some assert that they are only induced to transport hay, pressed in the common way, now, on account of the necessities of the Government. We give our readers the facts and statements which are presented to us in relation to this very interesting invention, which seems likely to have a marked influence upon our agriculture. Further information may be had of the "Beater Press Co.," addressed for the present, care of Cornish & Congdon, 538 Pearl-st., N. Y

Irrigation.

The art of irrigating gardens and more extensive fields of grass, grain, and roots, is almost unknown in this country east of the Great Plains, and it is a fact to-day, that in the oldest States, the richest lands—these which a little labor will make most productive, namely, those best adapted to irrigation—as a general rule, are considered the poorest lands of the farms; and if such a piece lie so that it may be conveniently detached from the main body of a farm, it may commonly be bought cheaper than any other land on the farm. The kind of land we refer to is low ground, skirted by brooks, often overflowed, swampy in spots, given up to reeds and rushes, possibly difficult to drain, but usually this point uninvestigated. Brooks that do not dry in summer, or living springs on one's farm, are, and will bye and bye be considered the greatest boons of nature. We are happy in possessing a country the greater part of which is "a land of hills and valleys, and drinketh water of the rain of heaven;" so that those fields which can not be artificially watered, may still be made as we see at the present time very fertile. Draining, deep plowing, and good tillage, will make almost all the arable land east of the Mississippi, produce good crops. By proper investigation and use of the facilities for irrigation, an immense area now liable to damage from drouth, though yielding average crops, might become almost inconceivably productive; a great area of dry and unproductive land might be made very fertile and the capacity of the country to sustain a dense population, vastly increased. In time, we venture to say, many of the hills of New-England and the older States will produce more than the wildest dreams of their present owners imagine; and it is not too much to anticipate that these States will yield enough to feed the present population and a good deal more, though now they can only balance their debts to the West for food, by the products of labor in their factories and machine shops, and by the enterprise of their merchants and seamen.

The first kind of irrigation likely to be undertaken extensively in this country is the formation of "water meadows." When these are well made, they are laid out in "beds," which vary in width and length according to the "lay of the land." One of these beds we will say is two rods wide and six rods long. Through the center is a ridge running from one end where the water supply is, to within 10 feet of the other. This ridge is a foot higher than the sides of the bed, from one end to the other it is nearly level, and a shallow water channel runs the entire length. The channel is so arranged that when filled with water, it overflows uniformly from one end to the other, equally on the different sides, distributing the water uniformly over the entire surface of the bed. A gate consisting of a bit of board made tight with sods, etc., closes the end of the ditch or regulates the flow. Many of these beds are often arranged together, fed by water from a main ditch or leader, from which the distributing ditches all lead. A ground plan of such a series of beds is shown in fig. 1. *A*, is the main ditch, and *B*, a distributing ditch. Fig. 2 represents rather

an exaggerated profile, as if a section were made from *D*, to *E*, fig. 1. After the water has flowed down the slight incline from the top of the beds, (*B*,) to the hollows between the beds, (*C*,) it flows down more or less rapidly, according to the slope in a sort of gutter between the beds. This gutter is in some cases "puddled" with clay. That is, some clay is spread evenly in

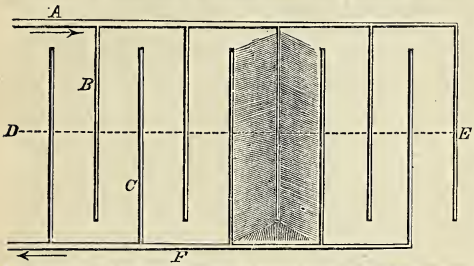


Fig. 1.—PLAN OF SEVERAL IRRIGATED "BEDS"—ONE OF THEM SHADED.

the gutter, and it is pounded hard so that water will not percolate. These surface drains (*C*,) discharge into a drain (*F*,) below the beds, which collects the water and conducts it off, or to some place where it can be used a second time.

Thorough drainage increases the good effects of irrigation very much, particularly in heavy soils. The drains are laid under the surface drains (*C*) and 3 feet below them, great care being taken to prevent holes washing down to the drain. The water collected in the underdrains coming out usually at a lower level than the ditch *F*, may be used independently of this, or with it, in subsequent irrigation.

The readers of the *Agriculturist* in California, New Mexico, and Colorado, might give those of the East, many useful hints in regard to the use

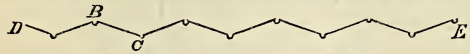


Fig. 2.—PROFILE, OR SECTION OF "BEDS."

of water to make crops grow without rain. For in those countries little or no rain falls during a great part of the year, and gardeners depend upon the streams, and wells sometimes, for water which they guide in channels among the grain and other crops, as well as fruit orchards and vineyards. "Water meadows" are very common in Germany, and are increasing very fast in Great Britain, while in southern France and Italy, there are extensive districts rendered fertile only by this use of water. The employment of brooks and other streams for this purpose is regulated in these countries by rigid laws, so that no one shall take water from a stream, which waters his neighbor's ground, and not return it to the old channel again.

Tobacco Culture.

We continue our notes on the culture of tobacco chiefly for the sake of many who are raising it this year for the first time. The fields which have done well, are by the first of August beyond hoeing, and many are ready to be topped, while some after having been subjected to this operation are sprouting with "suckers" from every leaf-axil. The topping leaves 16 to 18 leaves on the plant as a general thing, though in the case of late fields or single plants, when there is either danger of their not being fit to cut before frost, or at the time of the maturity of the rest of the crop, it is desirable to top lower, letting not more than 10 to 12 leaves remain. The whole strength of the plant goes to forcing them to an early maturity. Soon after topping, the suckers begin to grow, those on the upper part of the plant making most rapid growth. When the longest are about 4 inches long, break them off, taking care not to hurt the leaves; worm at the same time—indeed the worming is never to be omitted nor care relaxed. The larger the leaves and the more perfect they are, the greater the injury the crop will receive from worms if they are neglected. If the weather is warm and not too dry, the fortnight after topping will show great changes in the character of the tobacco plants. The leaves will have attained nearly their full size; they will have become turgid and full of veins, and a good deal thickened up. The worm ing force will have to move about with great care, except at high noon, when the heat of the sun will cause a softening of the leaf and less brittleness. When the tobacco is fit to cut, it becomes somewhat spotted and yellowish, usually the surface a little gummy, and when the dew is on, the leaves break easily if folded and pressed.

Before tobacco is cut, the houses or "tobacco sheds" in which it is to be hung for drying and curing, must be prepared, the system of hanging decided upon, and all things made ready. Systems vary greatly. At the South and West it is usual to tie the plants together in pairs so that they may be hung astride of poles in the sheds. In Maryland and Virginia a common practice is to split each plant down before cutting so that it will straddle a pole in the same way. Another way is to drive nails or pegs slanting into the butts and hang the plants by hooking them upon frames or rods. Yet another method is to "spear" the plants by passing a rod through the butts of as many plants as will hang upon it. The method practised in the Northern States is usually to bind the plants with a cord alternately upon each side of rails or bars which are in place in the sheds. This way has been described and figured in former volumes, and in the present volume, page 76 (March), another and we think better method than any "Reader's Plan," is described and illustrated.

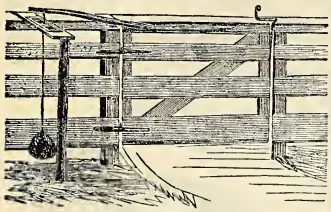
Tobacco is cut in clear days after the dew is off, the plants being carefully handled. A man on his knees, lifts the leaves and severs the stalk with a hatchet or corn knife; a saw is sometimes used and preferred. The plants lie until wilted so that they can be handled without breaking and tearing. If the sun is very hot, half an hour's exposure or even less will often burn the leaves so that many will be damaged. In such a case turn that which must be long exposed, and cart to the sheds as rapidly as possible, laying plants into the vehicle so that each may be easily lifted without disturbing others. When first hung the plants should only slightly touch. There should be a free circulation of air under and above; shutters on opposite sides of the building are also desirable. After hanging a few weeks the rails may often be slipped closer together to make room for a later portion of the crop. There is danger in hanging too close that the plants will mould and heat, and in case the weather is close and damp for many days (such weather seldom occurs to an extent to damage tobacco in the Northern States) it is customary at the South and West to build fires in pits under the tobacco, so as to thoroughly change the air and check a tendency to mould. Stoves are better, for then the smoke is carried away. A platform suspended a few feet over the stove will tend to spread the heat that the plants hanging very near shall not be the only ones benefited. The best way is to have fixed flues from furnaces laid in the floor of the house, by which the temperature can be regulated.

The "Locomotive Seat."

This is an ingenious contrivance, to save the strain of the backs, and muscles of the legs of persons whose labors require them to maintain a stooping posture, when they have frequently to move short distances, and hence can not take an ordinary stool with them. Especially is this adapted to relieve the nurserymen and gardeners in some of their labors—for instance in grafting and budding near the ground; or setting out plants with which considerable pains have to be taken. The construction is easily seen by the engraving. An iron sole is firmly attached to the foot; upon this sole and just back of the heel is a socket into which fits a straight ash stick of convenient length, and upon the top of this is a circular disk of wood which affords a very comfortable support to the body, taking the greater part of the weight entirely off the legs. The name "locomotive" indicates that the seat *walks* with the user. The fact, however, is that the user walks with the seat attached to his foot. It is not in the way of any common movements, and instead of being a temptation to indolence, is rather an inducement for a man to stick to his work, and not find an excuse to get up and walk off somewhere to ease his legs. We have suggested to the inventor its use as a milk-stool, and if the experience of others is like that of the writer, the usefulness of such a stool will be generally recognized.

A worn-out surgeon, just home, from the Army of the Potomac, seeing one of these seats in the office of the *Agriculturist*, was so much pleased with it, that we urged him to take one back with him. The surgeons have to bend over the wounded men as they lie upon the ground or in the low "stretchers." They can rarely find room to place stools if they had them, but with these articles they would have a seat wherever they could find standing room. Following out this idea several of the stools have

been forwarded by the inventor through the Sanitary Commission, for the surgeons to test their utility. The inventor and patentee is Rev. E. Whittlesey, of Hammondton, N. J., for many years a missionary at the Sandwich Islands.



A Simple Gate Shutter.

The skill of a good mechanic who works with furnaces and lathes, and the conveniences of a good machine shop, will provide many things for the farm which are exceedingly convenient and useful; but we place higher value on a class of convenient and useful contrivances wrought by the native ingenuity of the farmer and with the tools that are at every body's command. An example is at hand in this contrivance for shutting a gate, which is sent to the *Agriculturist* by A. L. Hatch, of Richland Co., Wis., who thus describes it. A stick is fastened to the top of the gate, extending back over the fence, a little to one side and elevated sufficiently to clear the fence when the gate is opened. On the end of this stick is tied a rope with a weight attached, as represented in the diagram. A board is nailed at one end to the top of the fence, projecting at right angles to it and supported at the other end by a small post. Two rollers are set in this board, and the rope passing down between them, will effectually shut the gate which ever way it may be opened.

Hop Raising in the State of New-York.

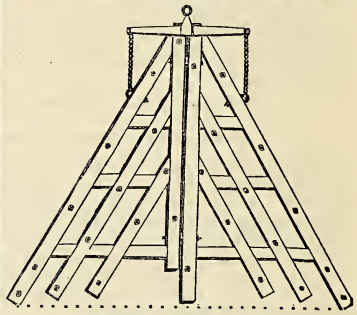
Central New-York is the most important hop district of this country, but the culture of the hop is fast extending over other parts of the State; nor is the hop growing interest confined to New York, but is rapidly advancing in the Eastern, Middle and Western States. To the farmer engaged in the culture of hops the most important thing is to grow them properly, and the next to secure the crop in good order, and have them perfectly cured so as to have the color, flavor and texture all right, without injuring their strength. To do this, very much depends upon the picking, but the best grown and most properly picked hops are frequently spoiled in curing. If they are not sufficiently dried, they are liable to heat after being baled, so as to be entirely worthless. If over-dried, or if the heat in drying is raised so high as to scorch any part of them, much injury is done. Stoves made expressly for hop kilns are now generally used, with pipes which convey the heat around the room under the drying floor, and carry the smoke to the chimney. The drying floor should be about twelve feet above the ground on which the stoves stand. It is made of strips of plank, one and-one-fourth by two and-one-half inches, set edgewise about one and-one-half inches apart, so as to be stroug enough for a man to walk on them. This is covered with a cloth which is generally made of linen, like strainer cloth. In England this cloth is frequently made of hair, which is considered best, as it does not "fur up" by the gum of the hop, as cotton cloth does. Cloth made of hard twisted linen thread, and woven open, or "low sleyed," does very well, as it permits the heated air to pass up through the hops, which should lie upon the cloth twelve inches thick, or more. There should be a ventilator above to let the steam pass off freely as the green hops are drying. A drying floor twelve feet by twenty-six will dry about 200 bushels at once, in eight or ten hours—so two floors can be dried in one day and night. They are generally turned over once or twice during the process of drying, but a skillful hand can finish them perfectly without moving them after they are laid on the drying floor, which avoids breaking the hop. Great care should be taken to keep them as whole as possible. They should not crumble in the hand, but be as soft as a kid glove. If too much dried, a little salt is sprinkled on coals of fire in the stove room under the hops, which are then allowed to lie in this damp atmosphere half an hour. This will cause a toughness and prevent crumbling as they are moved to the cooling room which opens from the kiln.

The floor of the cooling room should be two feet lower than the drying floor, and should be smooth and quite spacious. When perfectly cool they may be put into a bin or piled up in the same room until the press is ready. The Lever Press now in use in Otsego Co., is much preferred to the Screw Press. The less they are moved while hot, the better, as they crumble easily while warm. Most farmers use some sulphur to bleach the hop while it is being dried. The sulphur is put on a bed of coals, or placed on the hot stove for an hour or two during the drying process. While using the sulphur the ventilators should be partially closed to retain the gas about the hops. In that case half a pound of sulphur will be sufficient for a kiln, unless the rust has attacked the hop, when the sulphur is more freely used. The hops are sprinkled with water, thoroughly mixed several times, and the sulphur as often renewed.

In picking hops the universal practice has been to cut off the vine, and raising the pole to carry it to the box. The pickers strip off the fruit into the box, and in so doing get with the hops, leaves, dirt, and whatever falls from the mass of vines; and notwithstanding the care of the box-tender and owner, much foreign matter is almost always mixed with the hops. The Horizontal Hop Yard, described in detail on page 140 (May No.), is being extensively introduced. This secures a very pure quality of hops. The main vine is not cut at all, when the crop is harvested; only the arms that bear the hops are taken from the vine by the box-tender. There are no leaves except very small ones on these arms. It secures nice picking and makes it very light work to tend the pickers; even the girls can "tend box," as there are no poles to pull, nor are the vines cut near the root. The flow of sap from the root when the vine is cut near the ground weakens all hop yards, and destroys some entirely; and when as by this process it is avoided, the full strength of the vine is preserved to promote its next year's growth. This very simple process of training the vine low on twine, or otherwise connecting the stakes, secures strong, healthy roots, as the vine need not be cut down before it has fully matured, and the sap ceased to flow from the cut surfaces. A good observer, who has just made a tour through the hop region, writes to the *American Agriculturist*, that from bleeding an unusual destruction of hop vines has taken place this year.

A Good Harrow.

Mr. W. D. Morton of Lapeer Co., Mich., sends the accompanying drawing of a harrow, and writes as follows: "In return for many valuable hints in the *American Agriculturist*, I send you a plan of a harrow which I made some seven years ago, and have used on land both smooth and rough with perfect satisfaction ever since, and can now recommend it to your readers as being better than any other I have yet seen. It will work wherever the old-fashioned letter A drag will, among stumps or stones; either side, or the middle, may be lifted over stones or stumps with equal ease; and when the obstacle is past, it will resume its usual position. On smooth lands it is not so readily swung out of its place as the common double square harrows, nor drawn at an angle by any slight obstruction, or irregularity in the plowing; but will run straight ahead. It will run hollowing in a water furrow, between lands, and it will run crowning on the top of the ridge, thus nicely rounding off the ridges. It will make its mark every three inches, with the exception of two spaces at each side, and one in the centre, which are 4½ inches each. The proper working of this, *or any other double harrow*, depends on putting the drawing staples in the line of draught of each side, which so nearly intersect the centres of gravity of each side, that the proper point may be found by hanging up each *half separately*, after the teeth and hinges are put in, so that the centre timber will be perpendicular. Every one who has used this harrow pronounces it an improvement, and several have been made already from my model. Convinced of its utility I desire to see it in general use, and offer it freely, through you, to all who wish to know how to make a good and easy working harrow. One centre piece is six inches longer than the other, for facility in getting hold to lift the middle when necessary. Two teeth in each centre piece run in the same track; they are better to be both in, to balance the harrow. The draught bar must be equal in length to the distance between the drawing staples."



MORTON'S IMPROVED HARROW.

This harrow differs from the excellent Geddes harrow, which is the best form of a harrow in market, chiefly in the "draught bar," as our correspondent calls it, which it will be noticed is not attached to the point of the harrow at all, but is free to sway about in any way the chains will let it; and we see no reason why this "draught bar" might not be attached with perfect ease to the Geddes harrows now in use. This construction will enable us to hitch the team nearer the harrow and yet not lift the point teeth out of the ground, and if by any means the harrow be swung out of its proper

course, the power acts at a mechanical advantage, quickly drawing it back into line again.

Origin of the Chester County Whites.

There has been an interesting mystery concerning the origin of this, fast becoming famous, breed of swine. It has been attributed to the crossing of a "Bedfordshire" boar upon the common sows of Chester Co., Pa., a judicious selection of the progeny and careful breeding ever since. There being, however, no distinct breed of swine in Bedfordshire, Eng., which has a reputation on that side of the Atlantic or any record so far as we know, it is still a matter of doubt what kind of a hog it was that made so strong a mark. The late Duke of Bedford was a man of liberal sentiments and a distinguished patron of agriculture. The hogs on his estate at Woburn, were remarkably fine, especially his Berkshires, which were improved by an admixture of Chinese blood. This family never rose to the dignity of a distinct breed, but was distinguished for large size and rapid fattening properties, and is now extinct so far as we are informed. The Duke sent a pair of his swine as a present to Gen'l Washington, but they never reached him, for the man having them in charge sold them. The hogs made their mark in Maryland and Southeastern Pennsylvania, and wherever they found their way; other like importations were made, with good results upon our common stock of pigs. The Woburn breed is described as very large, spotted, maturing early, and fattening readily.

The origin of the Chester County hogs is stated by Solon Robinson in his book, noticed in our last number, to be from an importation of two Bedford swine by James Jeffries, a sea-captain, who sent them to his farm on the Brandywine, whence the breed has been disseminated. This was about 1820. Another statement is that a pair of hogs taken on board a ship from England for food, and not used, were bought and sent for stock pigs into Chester Co., and from these sprung the breed. Adding to these another statement recently received, in a letter from Israel Lamborne of Chester Co., Pa., we furnish our readers all the facts in our possession that bear upon this subject. Mr. L. writes. "Now as to the origin of the Chester Whites they originated under the care of Thos. Lamborne, Esq., 45 years ago, from a pig imported from Bedfordshire, England, by Joseph Kersey, son of Jesse Kersey. The hog measured 22 inches across the shoulders and his live weight was 800 lbs. He was kept for the improvement of stock until he died."

These accounts all agree in tracing the improvement to imported English swine, and all but one, which is very indefinite, attribute it to the "Bedfordshire breed." This may all come from a strong prejudice in favor of these hogs, which may have naturally arisen after the progeny of those sent as a present to Gen'l Washington became famous, leading farmers to call their excellent hogs "Bedfordshires." After all, though it is interesting to know their origin, yet the value of the breed is the chief thing. This is becoming very generally recognized. Since publishing the account of the great hog called "Benham's challenge," the stuffed skin of which is at the door of the *Agriculturist* office, we have heard of some remarkable cases of large Chester White hogs, one of these of the pure breed weighed last October, after being hauled 30 miles, 1,360 lbs., and we learn has been in good health and increasing in weight ever since. The readers of the *American Agriculturist* will be furnished with particulars about him before long. At present his owner is patriotically serving with the Ohio 100-days men.

We again caution our readers against deception, and having impure blood palmed off upon them. Not a black spot or hair is allowable, though such are sent out sometimes even from Chester County. We know of pigs which developed into regular "land pikes" coming from the same source—sent out by a good breeder too, who could not supply all his orders from his own stock, and so bought a few pigs of his neighbors to meet the increasing demand.

Sheep—Grub in the Head.

The attacks of the sheep gad-fly, *Œstrus ovis*, at this season are often very annoying to the flock, and if not actually productive of disease and death, wear the sheep out, almost, by fright and anxiety. A flock of sheep where flies are plenty, exhibits a nervous excitement, painful indeed to witness. The eggs of the fly are laid in the nostrils of the sheep; the worms when they hatch, as they do very soon, pass up into the upper part of the nasal cavity, where they remain until the next spring; when having attained their maturity, they come out and go into the ground. Tar smeared upon the sheep's noses, while it remains fresh, will successfully repel this fly. Should many of the grubs gain a lodgement in the head, it annoys the animal very much. Mr. I. W. Sanborn, a Vermont breeder of distinction, makes the following statement in the Boston Cultivator, in regard to his own practice. "Restlessness and a peculiar motion of the head indicate that all is not right, and from such symptoms the disease is known. As soon as the first signs appear, catch the sheep, elevate its nose, and pour into both nostrils about a tablespoonful of spirits of Turpentine. Free the sheep and notice the results. The violent sneezing which follows, brings the worms from the head—usually several of them—and in 60 minutes, and often less, the sheep is eating and apparently well. It has been the experience of sheep raisers in this vicinity where sheep thus attacked are let alone, they are almost sure to die." Mr. S. admits the severity of the remedy, but insists on its desirableness. It is probably a prejudice of shepherds and farmers, but the belief is general that the life of the sheep is often a sacrifice to "grub in the head." That it occasions intolerable annoyance to the animals is true, and that this is associated with other diseases is also more than probable. If the turpentine will thoroughly remove all the grubs, it may be well sometimes to subject the sheep to the application. This gad-fly is of the same genus as the parent fly of the bott which infests the stomachs of horses.

Pulmonary Murrain among Cattle.—Warning!

The rapid and certain spread of this terrible disorder in this State, and no doubt also elsewhere, make it incumbent on us again to sound a note of warning to all who buy cattle for stocking their farms or for feeding. In the neighborhood of this city, deaths are constantly occurring; the disease is perfectly well recognized and known by the milkmen, and by the authorities, for if an animal dies by disease or accident, the owner is obliged under heavy penalties to notify the sanitary police, and have it taken away; he may not remove it himself. Thus it happens that these cases are well known. The cows die in the swill milk stables, in private stables, and even on the commons, or unoccupied grazing grounds in the immediate suburbs of this city, and of its suburbs—Brooklyn, Williamsburgh and Jersey City. There is very great danger that cattle bought in this market and taken into the country to feed, will carry the seeds of disaster which can hardly be estimated. Almost every "cow leech" is sure he can cure this disease, and farmers who trust them may do so to their cost. It has baffled the wisest veterinarians of Europe, and there, any herd known to have, or to *have had* in it a case of pleuro-pneumonia, is at once cut off from all communication with other herds. The animals receive treatment which alleviates the disorder, and when those that survive recover, they are suffered in some cases to be fattened and killed. The losses to farmers of this State may soon be estimated by millions annually, if, as now seems inevitable, the disease continues to spread, for no efforts are made to stay its progress, to impart information concerning it, to investigate it in any way, by the public authorities or by agricultural associations. The facts we state, are facts. The warning should be heeded, or great loss will come upon the entire community, for every body is affected directly by whatever will effect the price of beef, milk, etc.

The Onion Maggot.

All facts concerning this pest are of interest to those whose crops have been swept off year after year by the onion fly. "A Canadian," writes as follows to the Genesee Farmer:—"On sandy land in Canada it was for some years impossible to raise a crop of onions from seed, and the consequence was that we were driven to import our supplies, and trust to the potato and top varieties. A lady who had a green-house and raised a large amount of early salad, had at one time a quantity of onion seed sown in the green-house early in the winter. After selecting such as were wanted for the house during the cold season, there was still left in the spring a large bed containing some thousands of plants. These were transplanted into the garden, and produced an abundant crop of fine bulbs, far better than any which had been previously raised from seed in the same place. They were also entirely free from the maggot, although beds of onions raised from seed adjoining the transplanted ones were completely swept off by the pest. The fact was taken advantage of in subsequent years, and an abundant supply of the finest onions was the result.

It would appear from this that the maggot produced by the fly can not exist on or injure the plant when it has attained a certain stage of maturity. Subsequent experiments confirmed this view of the case. Every one whose land is subject to the onion maggot, and who may try this plan, should raise the onion plants from seed sown under glass *very early*. The soil in which the seed is sown should be coarse sand, with a portion of well-rotted manure mixed through it. The young plants may then be removed without injuring the roots. In transplanting take care not to set too deep, and also take care that the roots go straight down into the earth, as they naturally would if sown where they are intended to stand."

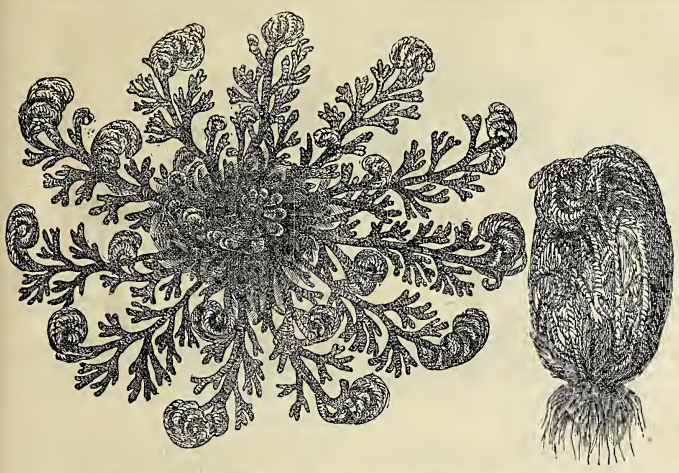
It is not the place which makes the person honorable, but the person makes the place so.

COOLING OFF.—*Engraved for the American Agriculturist.*

Comfort of Animals.

The animal's comfort and the owner's profit are two very different things. Most men do not seem to consider that in the "eternal fitness of things" it has been ordered that there should be a very close relation between some very different matters, and that the animal's comfort and the owner's profit *are* very closely connected. The engraving which we present, exhibits a scene of most comfortable repose. The sleek kine having filled themselves in the meadow during the cooler part of the day, are now in the enjoyment of the delightful shade and cool stream. They stand and chew the cud of contentment, and are worried neither by the heat nor by fears. It is evident that the functions of deglutition, assimilation and secretion must go on with much more profitable results than if the cows stood fighting flies in the hot, dry noontide, restless and discontented. Think of the amount of power wasted in stamping and pawing dust in the hot sun, in swinging the pondrous heads of a score of cattle from one side to another to beat off the flies, and in the many nervous steps and motions a herd of cows will make. Every one of these motions detracts from the amount of milk, or from the weight of the flesh of the animals. The worrying and the heat prevent the harmonious exercise of the vital functions and there is really a considerable loss resulting daily to the farmer, be he feeder or dairyman. With neat cattle and other ruminants this is obviously true, for they must spend much time daily in chewing the cud. With horses, animals which do not ruminate, it is scarcely less the fact, for wherever there is good pasturage, they spend a good part of the day at rest, quietly digesting their food. A fruitful cause of the great decrease of milk in hot weather may be looked for in the discomfort of the cows. The abundance of grazing and of water early in the season secures an abundant flow of milk, and the drying of the pastures is accompanied by a decrease. The grass which grows in hot weather is more nutritious than the succulent growth of spring and early summer, and it requires a less amount to satisfy the animals. But even when the food supply continues, the state of the weather makes a great difference in the quantity of milk given. Hot, dry weather will inevitably decrease the amount, which will increase again when the weather changes. Much of this decrease is due to the discomfort attending heat and dust and the attacks of insects, for with cows in soiling-stables there is but little variation noticed. These cows are more comfortable, have plenty of food and drink, shade and company, and soon seem to forget that they are deprived of liberty. Fattening animals which graze undisturbed in confined limits and have little to distract their attention, and no ability or temptation to take much excercise, do much better than those in large herds which have considerable range, more or less fighting and bullying, and other causes which excite them, or at least disturb the even tenor of their thoughts. It has been abundantly proved that the less of exercise an ox or sheep takes, so long as it is in good health, the less it can see, and the less it has to attract its attention in any way, the quicker and better it will fatten. Very much the same thing is true of all animals, though horses need light and exercise much more than neat stock, sheep or swine. As concerns animals at pasture whether feeding for the shambles, yielding milk, or young growing stock, the principle is equally applicable.

NOTHING TO WASTE.—The manure heap should be the great savings bank of the farm. Deposits may be made here upon good interest, which would only be nuisances elsewhere. There are miles of weedy hedge rows, acres of swale hay, and tons of weeds growing all over the country which properly treated would yield thousands of dollars. The weeds, if left where they are, will be worse than wasted; their seeds are already ripening for a tenfold or greater crop next year. Cut them down before it is too late, and compost them with lime and muck or manure. After the swale hay is all secured, to be used as bedding and thus worked over into manure, drain the spot where it grew, that "tame" grasses may hereafter feel at home, and give a better paying return. Much farm labor hardly pays in a pecuniary way, but labor upon the manure heap will return 50 per cent on its cost.



"Resurrection" Plants.

There are several plants, produced in countries where there are long seasons of drouth, which shrivel and roll up in the dry months, but expand when moistened by the rains and live or take the appearance of life. As these plants appear to come to life after dying, they have been termed "resurrection plants." One of the best known of these is the Rose of Jericho, which is often brought by travellers from the Holy Land. It is not a rose at all, but a little annual which has much the manner of growth of the carpet-weed, figured on another page. When the dry season comes on, its prostrate branches curl in toward the center of the plant, and the whole appears as a small ball, formed of the stems of the plant and its seed pods. The winds break this away from its slender root, and drive it about over the desert. The plant remains in this curled up state until it is moistened by rains or otherwise, when its stems unfold and its seed vessels open. This opening and closing can be repeated at will, by alternately giving and withholding moisture. There are some Oriental superstitions connected with this plant, but the phenomena it presents are only curious as one of the many contrivances for the scattering of seeds. Recently some kind friend, who withholds his name, has sent us from California, specimens of what is there called the "Rock Rose." This is an unfortunate name, as the plant is in no way related to the rose, and the term Rock Rose has already been adopted as the popular name of a very different thing. The specimens were of the shape and about the size shown in the right hand figure, of a brownish gray color, and looking neither beautiful nor interesting. Upon being placed in a saucer of water, the ball gradually unfolded and in a few hours appeared as shown above. The leaves (or more properly fronds) are arranged in a beautiful spiral, and look somewhat like twigs of arbor vitæ, but of a much darker and finer green. This plant is one of the club mosses, and is called *Selaginella lepidophylla*. The writer has seen this, or a similar species, growing upon the rocks along the Mexican frontier. During the greater part of the year it keeps rolled up in the manner already described, but during the short rainy season it expands and clothes the rocks with a brilliant verdure, in wonderful contrast with their former barrenness. Our plants appear to be still alive, and we shall give them a chance to grow if they will.

Notes on Strawberries.

The following remarks upon new and old varieties, are made with the hope that they will in some degree help our readers in making up a selection. They are made after examining berries in the garden and upon our exhibition tables. It should be borne in mind that many varieties which are valuable for home use are wholly lacking in the characters essential to a market berry. Unfortunately the number of really valuable market berries is very small; in these firmness is the first requisite, and then good color and size are the next considerations, while flavor and sweetness are but little regarded, as fruit is sold in the market entirely upon its appearance. A hard, showy and productive fruit will, for market purposes, take the preference of one of high flavor, but which lacks these qualities. On the other hand the amateur, who cultivates for his own use only, looks to quality rather than quantity, and as his fruit goes only from the garden to the table, it is of little importance to him if it will endure transportation or not. In this enumeration no particular order is followed. The present season has been very unfavorable for developing the flavor and sweetness of berries, and all varieties have been tested under unfavorable conditions. A good shape is a most important character in a strawberry. A conical shape, like that shown in fig. 1, is one which will allow the calyx or hull to be readily removed, and this is done all the more easily if the fruit is narrowed into a neck at the point where the hull is attached. The Agriculturist, Brooklyn Scarlet, and Monitor are good examples of berries which have a distinct neck. A fruit of this shape is vastly preferable to one like that in fig. 2, in which the berry has taken on a monstrous form, and become coxcombed, as it is called. It is very difficult to prepare a fruit of this kind for the table, as the hull is imbedded in the flesh of the fruit and can not be removed without disfiguring it. The Triomphe de Gand, Austin, and Rippowam, incline to produce specimens of this shape.

Fig. 1.—CONICAL BERRY.

Cutter, sometimes called Cutter's Seedling. A medium sized, solid berry, with a short neck. Said to be very productive. Specimens from several growers were rather sour, though it is sweet in good seasons—will probably prove a good market fruit.

Hovey.—An old variety, and if persons wish to grow a pistillate plant, this is one of the best. It is of good size and color, quite productive, and though not of the richest, is well flavored. Near Boston it is considered the standard sort, and is a favorite in some parts of New Jersey. The best cultivators have concluded not to recommend any pistillate sorts, although there are some with this defect having superior qualities.

Downer.—Of good size, shape and color, but rather acid and lacking in flavor. It is rather early and on account of its good shape and size is a fair market berry. Very productive.

Boyden's Mammoth.—A large berry, but hollow, flavor very fair. See Union.

Longworth's Prolific.—A firm, acid berry, of large size and good bearer. It has a thick foliage and is much prized in some localities.

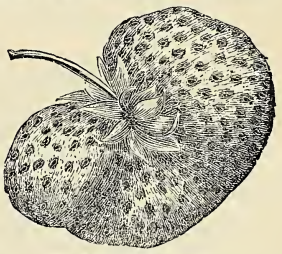


Fig. 2.—ILL-SHAPED BERRY.

Union.—This is said by Mr. Trembley to be a seedling, while others claim that it is Trollope's Victoria, and some say that it is the same as Boyden's Mammoth. According to Mr. Trembley it is far more productive than the Victoria. It is very possible that a variety may produce a seedling identical with the parent in every respect, save one, and that this may be a seedling from the Victoria which resembles it in berry and foliage, but is a better bearer. The fruit is of good size, fine color, hollow at centre, soft, juicy and of not high flavor. Its showy qualities will make it a good fruit to market near by.

Scotch Runner, known also as Pine Apple, and by several other names.—There can scarcely be a handsomer berry than this; it is of rather small size, conical shape, brilliant scarlet color, and the surface is beautifully honey-combed by the depressions in which the seeds are sunken; it is soft and flavorless, but still marketable.

Bicton Pine.—White, of good size, but very irregular surface; has a tendency to coxcomb, and as it is very hollow, not worth cultivating

Russell.—A distinguished cultivator writes "Russell in the plant, blossom and fruit resembles McAvoy's Superior. The Russell is more productive and I think will prove a surer bearer

Its flavor is not first-rate, and it has a very large core, or "*hollow where the core ought to be.*" This hollowness was noticed by us the first season it was exhibited, but this year we have examined specimens from a half dozen different cultivators and find them uniformly solid. Perhaps culture makes the difference. The chief fanlts with this plant are, that it does not hold up its fruit, and it is pistillate, but it is very productive and may be set down as good.

Empress Eugenie.—Solid, juicy and very acid. It coxcombs badly, and is generally considered as not worth cultivating.

Agriculturist.—Sufficient has been said of this fruit in last month's paper. As combining every good quality it has not its equal among native or imported fruits. We have seen no large berry which can compare with it for flavor, solidity, hardiness, and productiveness.

Buffalo Seedling.—A single specimen grown in a pot was exhibited by Francis Brill of Newark, N. J., who thinks it not different from the Russell. It is not fair to judge of it from what we have seen. It appeared to be a medium sized, solid, juicy berry, and the plant had a fair show of fruit for one of its size.

Fillmore.—This is thought highly of by some. As exhibited here, it is a fair, sweet fruit, rather lacking in flavor, with a hollow core.

Lady Finger.—This as shown by Mr. Williams was quite different from a berry of the same name from Mr. Heins, which last the Committee decided to be Scott's Seedling. The berry shown by Mr. W. is of a good conical shape, remarkably heavy, nearly solid, and of excellent flavor; with him it is a good bearer and ought to be an excellent market fruit.

Bartlett.—The same doubt rests over this as over the Union. Mr. Fuller and others consider it the same as the Boston Pine while some regard it as a distinct variety, and an equally different opinion is held with regard to its bearing qualities. It is of good size, tolerably solid, of a very high flavor, and as far as the fruit is concerned, it is first class.

Vicomptesse Heriart de Thury.—An ugly name for a good fruit. The berry shows a slight tendency to become coxcombed, it is of good size, and of a high and peculiar flavor. It is a fine bearer, and likely to become a favorite.

Ward's Favorite.—An old fruit, but not much disseminated. It is pistillate, of medium size, rich and sweet, a little dry, a moderate bearer.

Green Prolific.—One of Mr. Boyden's Seedlings. Very productive, but pistillate; of a globular form, solid, a little soft, and, from the specimens shown, rather acid, but well flavored.

Brooklyn Scarlet.—One of the Tribune berries, and twice took the first prize for flavor. It has a fine shape, surface, and color, and being a good bearer, will probably become a favorite.

Mead's Seedling.—A conical, medium sized berry, not very firm, but of good flavor. Pistillate.

Emily.—A seedling by Prof. Huntsman, which took a prize at the Exhibition. We saw only the Exhibition specimens, which were of good size, rather soft, acid, but of very high flavor.

Monitor.—A great bearer, and a solid berry, but as the specimens were not well ripened, we could not fairly judge of the quality.

Honneur de la Belgique.—Very much mal-formed and grown in all sorts of shapes; good, otherwise. A poor grower, and not a good bearer.

Lenning's White.—Best of the white berries. The fruit gets a strong blush in the sun.

Rippowan.—This is a seedling by J. W. Faulkner, Stamford, Conn. This has the general appearance of the Austin. It is a large, soft, coxcombed fruit, of a very good flavor.

Marguerite. — A well shaped fruit, with a very rough surface, and only fair in flavor.

Progress.—A hollow, roundish berry, not well flavored, it is quite late, and said to be a good bearer.

Triomphe de Gand.—This in some localities sustains its high reputation, though we hear complaints of its bearing qualities, and know of its being abandoned in other quarters. It needs high culture, and where it does well it is found a profitable market fruit, as it brings a high price. Its firmness is one of its best qualities; it bears transportation to a great distance. When large, it is of a bad shape, and its peculiar flavor is disliked by some. Still it has many good qualities, and it retains its place as a standard variety.

MULTIPLYING STRAWBERRY PLANTS.

Wilson.—Hard, very prolific, sour, as picked for market, but when fully ripened is of fair quality. One of the best for field culture. It becomes of a dingy color and the hulls blacken a few hours after picking, which peculiarities are against it as a market fruit, still it is more generally cultivated around New York than any other of the large varieties.

Austin.—A good bearer, rather late, stands dronth well and yields large and showy fruit, which is often coxcombed. Good family fruit, but too soft for marketing at a distance, it soon bruises and loses what little flavor it has.

Producing Strawberry Plants.

Those who can get plants enough to set out a bed have only to select good garden soil, not too stiff, spade it deeply, and if not already rich, work in a dressing of barn-yard manure; or if the soil is sandy and deficient in vegetable matter, a supply of muck or leaf mould should be added. In garden culture beds four feet wide with walks between them two feet in width, are found to answer the best. Three rows of plants are to be put upon such a bed, one row down the center, and a row at eighteen inches distant upon each side of the center row; this will leave the outer rows six inches from the edge of the bed. The plants are to be set eighteen inches apart. This will allow of weeding and all other operations connected with their culture without trampling the soil around the plants. In field culture the plants should be set in rows which are sufficiently far apart to allow the use of the cultivator or horse hoe. Two and a half feet will be found to be about the proper distance with the plants a foot apart in the rows. But this article was intended for those who get a few plants and wish to multiply them as rapidly as possible. Those who receive the *Agriculturist* plants as well as those who wish to make a beginning with other kinds, desire to know how to make the most of a few plants. We hope that there will be no reader of the *American Agriculturist* who has sufficient ground to make a bed who will consent that his family shall be without this most delicious fruit. If any one has applied to receive the *Agriculturist* plant, he will get it early next month, and will have a point to start from; or he may instead of this, or in addition to it, order from a nurseryman a few plants of any desirable variety. The postal facilities are now such, that a dozen or more plants can go by mail at a very small cost. If one or more plants can be had in good condition, then a future stock is secure, for with proper management they can soon be multiplied many hundred fold. When plants are received, unpack them at once, and pick off the decayed leaves, if there be any. If the bed is not ready, put the roots in moist soil, in a shady place. It is to borne in mind that where there are a few plants, the object is to multiply them as rapidly as possible, and a different treatment is required than for those which are to bear fruit next year. To produce new plants, it is best to make the soil very rich with barn-yard manure, spaded in and put upon the surface. Having prepared the ground in this way, whether for one plant or several, the next thing is to set out the plants. Two feet apart each way is none too far for plants in a propagating bed. In setting out the plants, it must be borne in mind that there is a right way and a wrong way about every thing. One man will take a single plant and make a hundred or more from it, while others will fail altogether. The setting out of the plants requires care; the roots may be stuck into the ground and the plant *may* grow, but to be sure of it, it is best to take a little pains. To set out a strawberry plant, make a shallow hole four or five inches in diameter, and as deep as the length of the roots. In the center of this hole make a little hillock and set the plant upon it, letting the roots extend down the sides of the hillock, and then fill up with rich soil, taking care that the crown of the plant is not covered, and also to leave the whole far enough above the general surface to allow for the settling of the earth. As several have asked how strawberries are propagated, we have had an engraving made from a living plant to illustrate the peculiar manner of its growth.

When the plant gets well established it will form runners, which are long branches, so weak that they lie upon the ground, each having a bud at the end. This bud, in contact with the soil, will form roots, throw up a tuft of leaves,

and become independent of the parent. As soon as it has fairly rooted, the runner connecting it with the old plant may be severed, as it is now able to support itself. This new plant when fairly rooted, and often before, will push out other runners, which will repeat the process, and thus it will go on, so that in favorable seasons and in good soil, the parent will be surrounded with a large progeny. The engraving shows at the left hand the original plant, next at the right a new one well rooted, still further to the right, a plant forming, but not yet fixed in the soil, and a runner from this last terminated by a bud which has not yet developed. Success in multiplying a variety depends upon making the plant push out the greatest number of runners and in inducing as many as possible of these to take root. Hence the reason for highly manuring the propagating bed—as this not only induces the formation of runners, but greatly facilitates their rooting. It often happens that the wind blows the runners about and interferes with their taking hold of the soil, and it is well to throw a handful of earth upon the middle of the runner to hold it in place. Plants set out in September will generally produce well rooted new ones, which may be removed in October, and these will give a moderate crop of fruit the following spring. In removing young plants, care is to be observed to avoid waste. If the center plant in the figure were removed, the unrooted one beyond it, as well as the bud, which might have made a plant, would be lost. With common varieties where there are plenty of plants, no great care is taken, but with a rare sort it is necessary to see that every plant not yet rooted, and every bud, is left with a well established plant to support it until it makes roots of its own. If small pots filled with earth are set in the bed the runners can be made to root in them, and the plants can be removed with little disturbance to their roots, as the ball of earth can be turned out and set in the fruiting bed. In October, when there is little probability that the bud at the extremity of the runner will root, the runner may be cut off near the plant from which it starts, and inserted in the soil like a cutting, taking care to have the bud just at the surface. Treated in this way and slightly covered during winter, these buds, which would otherwise be lost, will generally make new plants. Before the ground freezes, give all the beds a covering of straw or litter, but do not cover the crowns of the plants more than an inch or two.

The Leatherwood or Wicopy.

(*Dirca palustris.*)

Many of the shrubs found growing wild in our woods and swamps, when placed under the care of the cultivator, becomes objects of beauty. In the crowded thicket, where they are obliged to struggle with others, they are drawn out of shape, and they give, in that condition, no idea of the beauty they will present when they have free space in which to develope, and the hand of a skillful gardener to prune their irregularities of growth. American shrubs have received very little attention at the hands of our nurserymen, while in Europe they are highly prized and largely cultivated. Much of our nursery stock of this class is imported from European nurseries. The Leatherwood or Wicopy is found throughout the northern States, and is more worthy of attention as a lawn shrub than many exotic species now in cultivation. It grows from three to six feet high and as its branches

LEATHERWOOD OR WICOPY.

start horizontally from near the ground, it forms a fine compact globular mass of verdure. The young branches have a peculiar appearance, being much larger at the joints than they are below. The bark of this shrub is exceedingly tough—whence the common name of Leatherwood—and is very useful for thongs and withes. The strength of the bark is such that a man can not break that which surrounds a very small twig. The plant belongs to the Mezerum family, and its bark in common with others of the same family has a very acrid, burning taste when chewed, and readily causes vomiting. The shape of the young leaves is shown in the engraving, but when fully developed, they are more oval; they are of a rather pale green and are whitish on the under side. The flowers appear early in spring, and usually fall before the leaves expand, though in shady situations we have found them retained until after the leaves appeared; they grow in threes with the short flower-stalks joined at the base. The flowers are without petals, the showy part being a tubular calyx, which is about half an inch long, and of a light greenish yellow color. They are produced in sufficient numbers to make the plant quite showy when in flower. The fruit is a small one-seeded berry. The shrub will succeed best in a soil containing considerable vegetable mould. The description and engraving will enable any one to recognize it in its wild state. Young plants may be removed from the woods and it may be propagated from seeds or by layers which take two years to root. In our experience it is perfectly hardy even on an open lawn—a trying place for many of our native shrubs and trees, especially natives of thick woods and banks of streams. The lawn is dry and hot in summer, swept by winds and bare of snow in winter, yet the Wicopy thrives and forms dense heads.

THE PETUNIA AS A POT PLANT.—We are so accustomed to grow this as an annual, that but few are aware that it is really a perennial which flowers the first year. It is usually sown in masses as a bedding plant, and as such it serves a good purpose, making a brilliant show of flowers throughout the season. Its long trailing branches cover a great space, and as most of the common varieties seed freely; the plant is self-sowing. When grown as a pot plant, the petunia becomes a kind of shrub, susceptible of being trained according to the fancy of the cultivator. For decorating the balconies, verandahs, etc., there is nothing more satisfactory than some of the finer kinds of petunias grown properly. We prefer some of the new blotched and veined sorts; they may be grown from seeds, or more true to kind from cuttings. When once fairly started, they may be trained to form a compact bush or be spread upon a fan-shaped or other trellis. The plants bear pinching to any extent, and push out branches very freely. Do not let the plants bloom until they have taken on the required shape. If a bush form is desired, pinch out the end of the plant when it gets about a foot high; side branches will soon start all along the stem, and if any of these are disposed to outgrow the others, they are to be stopped by pinching. A few weeks training will bring the plant into the desired shape when it may be allowed to bloom.

Take Care of the Peaches.

Though our western friends mourn the loss of their crop of fruit by the severe cold of last winter, the peach growers around New-York congratulate themselves that the present promise of fruit is better than it has been for many years past. Peach trees are very apt to overbear, and the fruit needs thinning, not only for the safety of the tree, but for its own increased market value. It is the experience of the best growers that it pays to remove from one half to two thirds of the young fruit, as what remains will be finer and larger, and bring more money than if the whole crop had been allowed to ripen.

A Native Woody Climber.

(*Celastrus scandens.*)

For covering screens and trellises, and for shading verandahs, the woody climbers are particularly valuable, inasmuch as their foliage is produced early in the season, and they are available for these purposes much sooner than the herbaceous or annual ones. Every one must have noticed in autumn the beautiful clusters of scarlet and orange fruit which hang from the trees and fence rows, and which are commonly known as the fruit of the Wax Work or Climbing Bittersweet, (botanically called *Celastrus scandens,*)—one of the finest woody climbers of this or any country. It is a very free growing plant, and in its wild state attains the hight of twenty feet or more, and is found in abundance in woods and thickets, twining around trees with such force as to seriously interfere with their growth. It is not unusual to find its stem half imbedded in the substance of the trunk. On account of the pertinacity with which it entwines trees and the mischief which it does, the Germans call it the "tree strangler." This peculiarity however, only adapts it all the more to ornamental purposes, as it clings to supports without any aid. The leaves, the form of which is well shown in the engraving, are of a fine lively green. One of the flower clusters is also shown. The stamens and pistils are in separate flowers, either on the same plant or on distinct plants. A magnified staminate flower is shown separately. The flowers are of a pale, yellowish green, and not at all conspicuous, but their lack of beauty is more than compensated for by the showy fruit clusters in autumn. Three of the pods are shown in the figure; they are of a fine orange color, and they split into three parts and expose the seeds which are enveloped in a rich scarlet pulp which shows off finely against the light orange of the pod. We know of a place near Boston where the ample verandah has rough cedar posts which are completely surrounded by this plant, forming beautiful pillars of verdure in summer, and are in a blaze of scarlet and orange in autumn. Plants taken from their wild localities grow readily, or they may be propagated from seeds or layers. In its wild state the *Celastrus* is found growing most luxuriantly in moist and shaded situations, but it adapts itself to any garden soil; a sandy spot should be enriched with leaf mould or muck.

Two Troublesome Weeds.

Illustrations are here given of two small annoyances to the farmer and gardener, which seem to many to exist merely to try one's patience, though we believe that they are of great use in showing that the soil needs stirring. Fig. 1 is the Carpet-weed, showing a young plant of the natural size. It at first appears as a small cluster of leaves, which throws out slender branches in every direction, these soon fork and form two other branches, producing a rosette of leaves at the point of subdivision. The branching goes on in this manner, the whole keeping near the surface of the ground and covering it so completely as to render the name of Carpet-weed particularly appropriate. The flowers, which are produced in the axils of the leaves, are so inconspicuous as to be almost microscopic. They consist of a five-parted calyx, three stamens, and a pistil, having three stigmas, which ripen, into a many-seeded, three-valved pod. The botanical name is *Mollugo verticillata*; the first name being supposed to be derived from *Mollis*, soft, and the second having reference to the whorled or *verticillate* appearance of the leaves. This plant is found mostly in rather sandy soils, appearing very small at first, but from its peculiar manner of growth soon covers the surface, if neglected. In moist soils it is replaced by the chickweed, a member of the same family. Both weeds are annuals, and are never to be found but in neglected grounds, and in lands subject to annual overflow. Fig. 2 shows a small branch of the everywhere abundant *Purslane*, which though so common all through the country is believed to have been introduced from Europe. We have however a wild species west of the Mississippi which is undoubtedly a native. The reddish, fleshy stems and the thick green leaves of the purslane are striking, and were the plant not so common, it would be considered beautiful. The flowers are small and yellow, but as they open only in sunshine and remain expanded but a short time, they are likely to escape general notice. The pod opens when ripe by a sort of cover, and exposes numerous little kidney-shaped seeds, which when examined by a magnifier are found to have the surface beautifully marked with little depressions. There is something worth observing even about so common a weed as this. The name purslane comes from an old French name for the plant, *pourcellaine*; its botanical name is *Portulaca oleracea*. The derivation of the generic name, *Portulaca*, is not known, but the specific one, *oleracea*, comes from the Latin *olus*, a pot-herb, and indicates that purslane has been used as food. Indeed its use as a pot-herb dates back through "all antiquity." It is now used to some extent, especially by old fashioned people, who have not found out that there are better things, and several new and improved varieties are named in the European seed catalogues. When used for "greens" the plants should be taken when six inches high. We have lived where cultivated vegetables were not to be had, and found that a mess of purslane was not to be despised as an addition to a continuous diet of salt meat. The Portulacas cultivated in the flower garden, are from South America; they have much larger flowers of various colors, and cylindrical leaves. All of this genus have a wonderful vitality. We

Fig. 1.—CARPET-WEED (*Mollugo verticillata.*)

Fig. 2.—PURSLANE (*Portulaca oleracea.*)

have kept specimens between paper for weeks, for the purpose of drying them, and then found that they were alive and would grow. This fact shows the necessity of preventing the plants once hoed up from rooting again. In the garden they can be raked out and taken to the hog pen, but in field culture this can not be done. There the weeding should be done on a hot day; one skillful with the hoe usually manages to completely invert the plant after cutting it up.

THE HOUSEHOLD.

Household Hints for August.

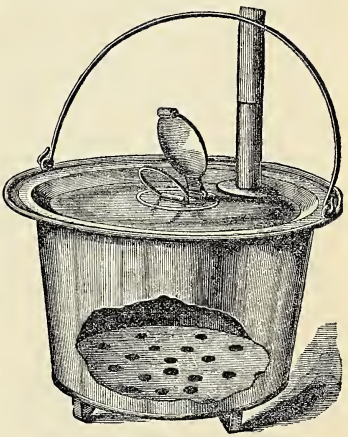
Hot weather, busy days. Get as much of the housework as possible done in the cool of the day. Sponge the bread at night, that it may be ready to mold into loaves in the morning, and do other baking at the same time. If you have washing to do, soak your clothes over night, and boil them up in the morning after a partial rubbing, for clothes much soiled, or use erasive soap and a spoonful of sal-soda in the boiling suds, to save a great deal of rubbing. Remind your husband that a good washing machine and wringer would be acceptable as soon as he can afford it. When baking or washing is to be done, provide beforehand for breakfast that it may be prepared with little trouble. If the baby keeps you awake nights, go to bed early. Nature exacts severe penalties for violated law. Clean floors in the morning, and iron after tea. Put your house in order immediately after breakfast, and before retiring at night. Begin to think about next winter's comfort, and so always have knitting or something ready for leisure moments.

Two Ways of Governing Children.

The best government of children is that which trains them to properly rule themselves. A boy who refrains from wrong only or principally because he fears the rod, is in a fair way to ruin; when he has grown too large to be whipped, restraint will be gone, and he will hasten to gratify his passions all the more fiercely because of the previously enforced denial of indulgence. The constant effort of parents should be to teach children that inconvenience, pain and misery are the natural consequences of transgression. Merely repeating this day after day to a child will not be sufficient to implant it as a principle of action. It may be thus impressed on the memory, but not on the life. Children learn to avoid physical danger, first by experiencing the pain resulting from it. No child will let fire alone merely from being told that it will burn; but after he has once or twice felt the smart, he will not only shun the flame, but he will be more likely to heed future warnings, both of this danger and of others against which his parents may caution him. If his constant experience be that transgression of the commands and disregard of the counsels of his guardians are inevitably followed by evil consequences which he can feel, and that his pain is the direct result of his infraction, he will ultimately be convinced of the superior wisdom of those in authority over him, and of their just and kind motives in imposing restraint. "I always whip my boy when he disobeys me, and yet I can not make him mind," was the reply of a parent to the writer, when urging the necessity of proper discipline. In this case, and it is one of thousands, pain followed disobedience not as a direct result, but only as an arbitrary and temporary consequence. The boy might feel that perhaps the whipping came merely because the father was displeased, and console himself with the reflection that at some day he would be too big to whip. Or as is more frequently the case, the thought might be, "I will look out and not *get caught* next time." As an illustration of another and better mode of treatment take the following, which occurred under the writer's notice. A lady had placed a quantity of grapes in a closet for safe keeping until she could preserve them. Her little boy found them, and slily helped himself so liberally that the loss was noticed. He was called to account, plead guilty, for the proof was strong, and received not a whipping, but the following just sentence. "I am sorry you chose to take your share of the grapes slily and dishonestly, when by waiting a little you could have enjoyed them with the rest of us, and without fear or shame. Of course, you can not expect any more, having eaten your portion, and I shall not allow you to have them." The sentence was faithfully carried out. Every time the preserved grapes came upon the table the little fellow felt not only the deprivation of the luxury, but he could trace the natural and just connection between his sin and its punishment, and the lesson was remembered longer than a severe whipping would have been. A boy who should refuse to bring water or cut wood or milk the cows, or do other similar work, would be more successfully treated by being denied his share in the benefits of these operations, than by scolding or whipping. Thus in most cases of discipline, the punishment may be so directly connected with the offence, that the child will wish to escape the effect by avoiding the cause, and learn to do this habitually; and when this is done, a long step is gained toward the practice of self government, and a foundation of good principles is laid for his continuance in well doing when parental control can no longer be exerted.

Management of Domestics.

The scarcity of "good help" is only equalled by the infrequency of good mistresses. The few who know how to manage domestics, usually have faithful service, so that in general more than half the blame for servants' faults should be shared by their employers. This may seem harsh, but remember, that the employed are, as a class, of inferior capacity, needing direction, and most likely to go wrong without it. From her position the mistress has it in her power to guide those not determinedly intractable or helplessly stupid, and it is her duty to do it,—failing in this she sacrifices much domestic comfort, and inflicts positive injury on her dependents. A large proportion of servants are foreign immigrants, ignorant of our customs, needing to be taught almost every thing pertaining to housekeeping, and requiring no small stock of patience on the part of those who undertake the task. Lack of this quality is the beginning of half the housekeeper's troubles. Something goes wrong, and the girl at once "gets a scolding." In most cases, kindly pointing out the error, showing a personal interest in the improvement of the girl, and judiciously praising every attempt at better performance, will keep alive not only kindly feeling but a constant endeavor to please. The girl should be plainly directed as to what is expected of her, and there should be an inflexible requirement of obedience to all household regulations. This may call for no little firmness, but it should be so blended with gentleness that no needless opposition be provoked. Human nature everywhere rebels against harshness, but is attracted by kindness of manner. A judicious mistress will plan to lighten the labors of her domestics. A girl who sees a disposition on the part of her mistress to make work merely to keep her busy, will very naturally and justly take it as easy as possible. If, however, there be a prospect of finishing up, and enjoying a little leisure each day, it will stimulate to cheerful and active performance of duty. Service at housework, is at best, not an inviting employment, not one which parents would generally choose for a daughter; let this fact be kept in mind, and have its influence in awakening feelings of sympathy as well as inciting just dealing toward those whom circumstances have placed in the position of domestics.



New Vessel for Cooking Vegetables, etc.

The engraving represents a simple but useful contrivance for cooking vegetables, or other articles, which was devised and patented by a lady, Mrs. C. Britain, St. Joseph, Mich. It is a tin kettle with a perforated bottom and having a movable cover. It is designed to set into another common iron kettle. Feet are attached to the bottom to raise it from contact with the water when it is desirable to cook the contents by steam, which in many cases is a great improvement. The top has an orifice to which is attached a tube that may be carried into an opening in the stovepipe, through which odors from articles being cooked may escape; this in some instances is highly desirable, as for instance in cooking cabbage, turnips and onions. The use of this contrivance will also obviate the necessity of lifting off a heavy iron pot, to remove the contents, as the whole can be readily lifted out with the inner kettle. We are not informed as to the cost of this boiler, but from its simple construction, judge that it can not be very expensive. It is a convenient apparatus for use in the kitchen.

POLITENESS can not be learned from books of etiquette; to be genuine it must spring from a desire to bestow enjoyment, from a loving disposition. When this is trained to observed minor courtesies, it gives a charm and polish which attract in every sphere. It will be at once recognized by all, in court or camp, in the drawing room or the cottage. It will shine out not like the reflec-

tion from polished steel glittering but cold, but will beam as from inner depths like the light of the diamond, which cannot be successfully imitated.

Conveniences in a House.

Molly Greenfield, writes to the *American Agriculturist:* "Mr. A, is building a new house. He has been doing so for a long time. His means were limited, and he could not finish it all at once, so it has been slowly growing toward completion, much of the work being done by himself in his leisure; for although a farmer, who works on his own land with the boys, he is a mechanical genius. It is not every one who knows how to build a good farm house; things need to be handy for business. Mr. A.—whose wife has had something to do about the matter—has hit the nail pretty squarely on the head. The house is large, high, mostly of brick, well built, and presents a fine appearance; cellar under the main building, large and light—think he has a dark room partitioned off for roots: potatoes, perhaps most farmers know, turn green and grow watery, exposed in a light cellar. Here is an arch with large kettles for making soap, etc., and just at hand a well made leach tub, and a fire proof smoke and ash house, in one corner. Mr. A, has a rail-road on which to get things into the cellar. Farmer's wives would like Mrs. A's kitchen I think. It is of good size; what woman likes to roast in a little "tucked up" kitchen, cooking for harvesters in summer? Adjoining the kitchen is a small sink and wash room, a pantry, and a meal room with chests for flour and meal, kneading shelf, (drawer beneath), etc. There is a door into the meal-room from the wood-shed, so that flour can be brought in and emptied without being scattered over kitchen and pantry. Back of the kitchen stove is a permanent wood-box, built partly in kitchen and partly in wood-shed, to be filled from the latter, and the wood being removed into the former through a hinge door or cover. There is also a niche for the honest old clock that has served faithfully about thirty years, and so far as I know is good for thirty more—a niche with a door for the gun, two or three cupboards, several drawers in the wall for work, etc., a china closet, and shelf for any purpose required. The kitchen is very well lighted—who wants to work in a dark room? Farmers' wives spend so large a portion of their lives in the kitchen that it should be one of the brightest—pleasantest rooms in the house. I don't know but they would be thought strangely out of place, but I would have flowers and pictures and maps there, little 'loop-holes to let the sunlight in,' and snatch a pleasant thought from, while the weary mother toils for her family, or the 'hired girl' faithfully performs her round of duty. And then too, where the mother is, there the babies will be, and where children are there should be a great deal of brightness, beauty, and much to instruct."

To "Crystallize" Grasses, Flowers, etc.

Several correspondents have inquired how bouquets of dried grasses, flowers, etc., may be covered with small crystals, so as to present the appearance of frost work. Usually we do not admire ornamentation of this kind; it looks artificial and unnatural; but as it is quite in vogue in some sections we give the directions. Dissolve 14 ounces of alum in a quart of soft spring water, (observing proportion for a greater or less quantity,) by boiling it gently in a close tinned vessel over a moderate fire, keeping it stirred with a clean stick until the solution is complete. When the liquor is almost cold, suspend the object that is to be crystallized, by means of a small thread or twine, from a lath or small stick laid horizontally across the aperture of a deep glass or earthen jar, as being best adapted for the purpose, into which the solution must be poured. The respective articles should remain in the solution twenty-four hours; when taken out they are carefully to be suspended in the shade and remain until perfectly dry. When the objects to be "crystallized" are put into the solution while it is quite cold, the crystals are apt to be formed too large; on the other hand should it be too hot, the crystals will be small in proportion. The best temperature is about 65° of Fahrenheit's thermometer. Among vegetable specimens that may be operated upon, are the moss rose, the hyacinth, ranunculus, garden daisy pink, and a great variety of others; in fact, there are few subjects in the vegetable world that are not eligible to this mode of ornamentation.

The fitness of the solution for the purpose may be ascertained by putting a drop of it on a slip of glass, and seeing if it crystallizes as it cools, if so, the solution is sufficiently strong. Then twist around a sprig of a plant, a cinder, or a wire ornament of any kind, some cotton, or still better, some worsted. After being immersed, as already directed, the surface of the whole will be found covered with beautiful crystallizations.

Recipes for Dyeing.

Mrs. S. A. Maccrackin of Fairfield Co., O., sends a number of recipes, which seem to be sensible and in the main founded upon correct scientific principles. Mrs. M. says that in 1830 she wove a carpet, of yarn dyed according to these directions, and though it has since been subjected to constant wear, the colors still hold good. Rain or other soft water should be used in these recipes, and the yarn be thoroughly rinsed after dyeing.

Madder Red. (Tried only on woolen yarn). For 2½ lbs. yarn take ¾ lb. alum, 1 quart of bran, and 1 lb. of madder. Dissolve the alum in sufficient water to cover the yarn, and boil the yarn in the solution for two hours, and then rinse, wring and dry it. Boil the bran with two gallons of water and strain, add the liquor to the madder, which has been soaked the preceeding night in strong vinegar, enough to wet it, add sufficient water to allow the mixture to cover the yarn and bring the whole to a scalding heat. Put the yarn into the dye and let it scald for half an hour without getting hot enough to simmer. When the yarn is removed from the dye it may be made of a bright red by washing in soap suds, or it may be made crimson by dipping it in weak lye slightly warmed.

Pink.—For 2 lbs. yarn, take ¾ oz. of cochineal, 1½ oz. cream of tartar and 3 oz. of chloride of tin. This last may be had at the drug stores under the name of muriate of tin, or tin mordant. Soak the cochineal in a quart of warm water, and add it to warm water enough to cover the yarn, add the cream of tartar and chloride of tin, and throw in the yarn and boil until the desired color is obtained. Double the cochineal will make scarlet.

Yellow.—Make a strong decoction of black-oak bark, enough to cover the yarn, and for each lb. of yarn add ¼ lb. of alum, and 1 oz. of chloride of tin. Boil until the proper color is produced.

Orange.—Proceed as for yellow, but add madder in sufficient quantity to produce an orange color. Or instead, for 1 lb. of yarn take 1 oz. arnotto, and 1¼ oz. of pearl ash. Slice the arnotto into 3 quarts of water and dissolve the pearlash in an equal quantity, and mix the two liquids and boil. Put in the yarn and simmer 15 or 20 minutes, and wash it in strong soap suds as soon as it comes from the dye.

Dark Brown.—Into a vessel large enough to contain the yarn, put white-walnut bark enough to half fill it. Fill up the vessel with water and boil for an hour. Take out the bark and put in the yarn and boil. Remove the yarn and air it, and if not dark enough dip it in lye, increasing the strength of the lye if a very dark shade is wanted. A reddish brown may be given by adding a handful of camwood to the above.

Light Brown.—Proceed as for dark brown, using white-ash bark instead of walnut, and dip the yarn in strong lye. The yarn as it comes out of the dye, may be nearly white, but the lye will darken it, and if one immersion is not enough, dip it again. The lye will not injure the yarn if it be thoroughly rinsed afterwards.

Camwood Brown.—For 2 lbs. of yarn boil 1 lb. of camwood, in water sufficient to cover the yarn, until the color is extracted. Put in the yarn and boil until it has taken the color, then remove it, add to the liquor ½ oz. oil of vitriol, and put in the yarn again and simmer. If not dark enough, add 1 or 2 oz. of blue vitriol and simmer until the desired shade is obtained.

Blue.—One ounce of pulverized Indigo dissolved in 6 oz. of concentrated oil of vitriol makes what the druggists call Sulphate of Indigo, and what is known to the old fashioned dyers as "chymic." If the indigo be good and the acid sufficiently strong, the solution may be made in a glass bottle. For fear of failure in both of these particulars, it is as well to buy the Sulphate of Indigo ready made from the drug stores. For 1 lb. yarn, dissolve ¼ lb. alum in sufficient water to cover the yarn, add a little of the Sulphate of Indigo, put in the yarn, boil for a short time and rinse well. The depth of color may be graduated by using more or less of the Sulphate of Indigo.

Green.—Prepare a yellow dye of black-oak bark, as directed above, add gradually the Sulphate of Indigo, until the proper shade of green is produced, put in the yarn, stir well and let it boil.

Lilac or Purple.—For each pound of yarn dissolve ½ lb. of alum in sufficient water, and simmer the yarn for 2 or 3 hours. Make a dye of ¼ lb. Nicaraugua wood for each lb. of yarn by boiling out the wood in sufficient water. Put the yarn from the alum water into this dye and boil from 15 to 20 minutes, remove and drain it, dip in strong lye and rinse well in cold water.

Influence of Colors upon the Complexion.

The following suggestions on the choice of colors suitable for various complexions are taken from "Youman's Hand-book of Household Science," a work we have repeatedly and deservedly commended for its valuable and interesting treatment of subjects pertaining to every household. "Any colored objects, as bonnet trimmings or draperies, in the vicinity of the countenance, change its color; but clearly to trace that change we must know what the cast of complexion is. This varies infinitely, but we recognize two general sorts, light and dark, or *blonde* and *brunette.* In the blondes or fair-complexioned the color of the hair is a mixture of red, yellow, and brown, resulting in a pale orange brown. The skin is lighter, containing little orange, but with variable tinges of light red. The blue eye of the blonde is complementary to the orange of the hair. In brunettes the hair is black, and the skin dark, or of an orange tint. The red of the brunette is deeper or less rosy than that of the blonde. Now the same colors affect these two styles of complexion very differently. A green setting in bonnet or dress throws its complement of red upon the face. If the complexion be pale and deficient in ruddy freshness, or admits of having its rose-tint a little hightened, the green will improve it, though it should be delicate in order to preserve harmony of tone. But green changes the orange hue of the brunette into a disagreeable brick-red. If any green at all be used, in such case it should be dark. For the orange complexion of brunette the best color is yellow. Its complementary, violet, neutralizes the yellow of the orange and leaves the red, thus increasing the freshness of the complexion. If the skin be more yellow than orange, the complementary, violet, falling upon it changes it to a dull pallid white. Blue imparts its complementary, orange, which improves the yellow hair of the blondes, and enriches white complexions and light flesh tints. Blue is therefore the standard color for a blonde, as yellow is for a brunette. But blue injures the brunette by deepening the orange, which was before too deep. Violet yellows the skin, and is inadmissible except where its tone is so deep as to whiten the complexion by contrast. Rose-red, by throwing green upon the

complexion, impairs its freshness. Red is objectionable, unless it be sufficiently dark to whiten the face by contrast of tone. Orange makes light complexions blue, yellow ones green, and whitens the brunette. White, if without lustre, has a pleasant effect with light complexions; but dark or bad complexions are made worse by its strong contrast. Fluted laces are not liable to this objection, for they reflect the light in such a way as to produce the same effect as gray. Black adjacent to the countenance makes it lighter."

More About Bread.

Molly Greenfield writes to the *American Agriculturist.* Many farmers wives make milk or salt-rising bread, and if well made it is excellent; but it is not always as convenient to make in summer as hop-yeast bread. Hop-yeast may be kept some time in a cool cellar, and is very handy for biscuit, rolls, cake, and rusk as well as for bread. One is not obliged to keep a fire half a day for the "emptyings" to rise, with the risk of failure from carelessness, in allowing them to become too cool, or scalded. Here is a recipe for yeast which is good, something nearly like which I found in an agricultural paper a good while ago. Steep a handful of hops in a large basin of water, mix with the hop water three or four good sized potatoes boiled and mashed; also a tablespoonful of flour, half a tablespoonful of salt, and half a teacup of sugar. When cool, add a cup of brewer's yeast. Domestic yeast and molasses may be used instead of brewer's yeast and sugar. If you wish moist bread, pour boiling water on half or more of your flour, when you sponge your bread. But about Graham bread—do you ever make that? If well made it is truly excellent and wholesome. Here are two good ways of preparing it. 1. Mix wheat meal with sweet milk, roll about ¾ of an inch thick, and bake in a quick oven. 2. Mix the meal with rich buttermilk or thin sour cream, use soda and salt, drop on buttered tins in small cakes and bake quickly.

Hints on Cooking, etc.

Marble Cake.—Contributed to the *American Agriculturist*, by Charles E. McFadden, Rutland Co., Vt. For the white part, mix 1 cup of butter, 3 of white sugar, 1 of sweet milk, 5 of flour, ½ teaspoonful soda, 1 of cream of tartar, whites of 8 eggs, and flavor with lemon extract. For the colored part, take 1 cup of butter, 3 of brown sugar, 1 of molasses, 1 of sweet milk, 4 of flour, 1 teaspoonful soda, and 2 of cream of tartar, the yolks of 8 eggs, and 1 whole egg; season with cinnamon, nutmeg and cloves: this alone makes a good spice cake. To make the marble cake, first put in a pan a layer of the spice cake, then of the white, and so on until the loaf is complete, finishing with the spice cake. The above quantity will make two loaves in six-quart pans.

Pop Corn Pudding.—This dish, the invention of which is attributed to Solon Robinson, is highly commended by him for good flavor, healthfulness, and facility of making. Crush popped corn with a rolling pin on a table, and then grind it into coarse meal in a common coffee mill: or in a mill of large size, it may be ground at once, without rolling. One pint of corn will make about sixteen pints when popped, and this will measure about eight pints when ground. To make the pudding; mix five pints of the meal with four pints of sweet milk, place it where it will warm slightly, and let it soak an hour or two. Then let it cool, and add two eggs, sugar, raisins, and spice as for a rice pudding. Set it on a hot stove and boil a few minutes, stirring it several times to get the meal well mixed with the milk. Then bake it about an hour, and serve while hot.

To Cook Cabbage.—Cut fine, add very little water, cover closely and cook until tender. Slowly drain it through a colander, season with salt and pepper to your taste, and mix with it thoroughly a table-spoonful of good sweet butter.

BOYS & GIRLS' COLUMNS.

Thoughts for Hot Weather.

"Keep cool," is no doubt very good advice at all times, particularly when the thermometer marks 100° and upward in the shade, as it has here this summer; but how can it be done? It has been amusing to the writer, to notice the different plans men have tried for this purpose. One sits by an open window, where the hot blast comes from the dusty street, fanning himself furiously, fuming and fretting at the heat, and making himself still more uncomfortable by often looking at the thermometer. Another one is trying the experiment of fighting fire with fire, by drinking punch and juleps, to heat his blood and thus keep cool! But right across the way here sits a man who does not appear to know what the weather is. He is so busy with his writing that he thinks of nothing else, and so the heat makes little impression on him. He knows the secret of keeping cool—to think about something else. This rule will apply under all circumstances calculated to excite a man and make him uncomfortable. It is related of a sportsman that for years he was unable to shoot a bird because of his nervous haste when he discovered any game. At last a friend told him, to always stop and take a pinch of snuff before firing, and by thus "thinking of something else," for a moment, he became cool, and seldom missed a shot. The mind should be master of the body, and it may become almost absolute in its control, by proper training. A sea captain was lying sick in his berth, apparently dying. Word was brought to him that the sailors had mutinied. He instantly arose, seized his pistols, and with the assistance of his officers quelled the mutiny, and afterward recovered his health. His intense determination appeared to break the force of the disease, and, he was thus cured by having something else to think of so strongly, as to fix his whole attention, and to command the vital forces of his body.——Would it not be an excellent arrangement, if by some means we could save some of the excessive heat of summer, to use in winter? A story is told of a simple minded farmer, who used to open his barn doors wide every hot day, to gather sunshine for cold weather, and you may smile at his folly. But a perfect plan has been arranged by the Creator for doing this very thing. The food we eat, the clothing we wear, and the fuel by which we are warmed in winter, all come from the influence of sunshine; and it is a remarkable fact that every stick of wood or other combustible will give out in burning, just as much heat as was required to produce it. The trees, and plants are all storing up sunshine to give it out again in some form for the use of man. The amount of strength derived from a pound of corn eaten as food, is just equal to the force which the heat required to produce it would give out. Thus, if that heat would make steam enough to raise a hundred pounds to a certain height, then the man who eats and digests the corn will have just that amount of power added to his body. It ought to reconcile us to hot weather to remember that it is really the harvest time of power, in which the earth is gathering and storing up a plentiful supply of future life and vigor for all creatures.

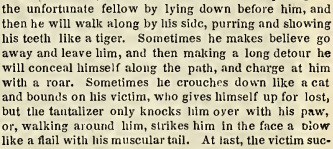
The Boys of New-York City.....III.

"To go to New-York and get a place in a store" is the highest ambition of thousands of boys in the country. They envy the lot of the smartly dressed clerks who occasionally visit their neighborhood, who seem to lead such an easy life, and have plenty of money to spend. Surely it must be better to stand behind a counter in a pleasant store, and handle dry goods, and admire and be admired by the ladies, and make money fast, without hard work, than to dig away on the farm, through sunshine and storm, from early till late, day after day. It is not at all strange that some boys should think thus, for, to do them justice, they have too much reason for it. Many of them are overworked. They have little or no time for the sports which all boys love, and life on the farm seems to promise only hard work and poor pay. But there are as many and perhaps more boys overworked and underpaid in the city. The younger clerks in retail stores have to be on hand early and late, usually until ten o'clock at night, to run of errands, often until scarcely able to walk, and worse than all, to be ordered about, and often abused by the clerks next above them, who too frequently delight in using their authority to the utmost. So many persons living here wish to have their sons learn business, that they are willing to have them enter stores almost without pay, so that for years, thousands work for less than their board would cost; thus a boy from the country has a poor prospect of securing any but a very hard situation, where no thoughtful parent would be willing to place his son. Our young friends should also bear in mind what has been repeatedly said in these columns, that the truest wealth a person can get is what he can add to his own powers. Clerks confined to their stores are apt to grow up like plants in the shade, with soft muscles, effeminate manners, weak wills, and frivolous minds. Their occupation also tends to make them selfish and not over honest; it is considered praiseworthy among them to be sharp at a bargain, which too often means to take every possible advantage in trade. Young men may overcome all these disadvantages; a few of them do, and grow up noble and worthy of all respect; but the tendency of business life as it exists in the city, is to belittle a man. This is too great a price to pay for any amount of money. Far better stick to the farm, work out strong muscles and a stronger will, an open, generous, noble nature, and a large manhood.

Habits of the Lion.

Gerard the lion tamer makes the following interesting statement of some of the peculiarities of the so-called king of beasts: "The lion treats a man very differently from any animal that he is accustomed to kill for food. If he kills a person who has fired at him, he never eats the body. If he meets, in his nightly promenade, a man well clothed in burnos, (a sort of cloak worn by Arabs,) his experience shows him that he is not a marauder, and he may either kill him for food, or, if the fancy happens to take him, he will kill him by fear, little by little, just as a pastime. In the first case, he will give him barely time to say his prayers, and then bounding on him, will crush his head with a single bite, instead of strangling him, as he is accustomed to do with other animals. In the second case, he sometimes will bar the passage of the unfortunate fellow by lying down before him, and then he will walk along by his side, purring and showing his teeth like a tiger. Sometimes he makes believe go away and leave him, and then making a long detour he will conceal himself along the path, and charge at him with a roar. Sometimes he crouches down like a cat and bounds on his victim, who gives himself up for lost, but the tantalizer only knocks him over with his paw, or, walking around him, strikes him in the face a blow like a flail with his muscular tail. At last, the victim succumbs to the agony that is greater than a thousand deaths, and dies of fear. These pastimes of the lion, that, as one can well imagine, have never been told by the victim himself, are reported by his comrades, who, having sought safety by flight, by taking refuge on rocks or trees, while the poor soul that was captured, too much frightened to imitate their example, died before their eyes, of terror, while they could do nothing for his relief but pray to the prophet, though without an answer.

New Puzzles to be Answered.



No. 93. *Illustrated Rebus.*—Worthy to be remembered

No. 94. *Geographical Question*, by Erastus Murphy The name of a President of the United States has been given to towns in 23 States, and to counties in 20 States, what is the name, and which are the States

No. 95. *Illustrated Proverb.*—Of frequent occurrence.

Answers to Problems and Puzzles.

The following are answers to the puzzles in the July number, page 215. No. 90. *Pictorial Proverb.—Of two evils choose the least.* No. 91. *Double Acrostics.*—1st Principal Words, JACOB'S LADDER: 1, Jackal; 2, Alexandria; 3, Contraband; 4, Oppressed; 5, Battle; 6, Surrender. 2d: Principal Words. CHASE, BANKS: 1, Club 2, Hepatica; 3, Afghan; 4, Shirk; 5, Editors. No. 92. *Illustrated Rebus.—When ewes peak two ape r sun look him in the face*; or, When you speak to a person look him in the face.

The following have sent correct answers up to July 5 Ed. Pillis, 92, Maggie A. Grigg, 92; W. K. P., and R. W. S., 92; D. Gibbony Cutner, 92; "Lyde," 92; James B. Zahn, 92; H. H. Stryker, 92; E. P. Hamlet, 92

STANDING FOR A PORTRAIT.—*Engraved for the American Agriculturist*

The manly looking lad who is standing to have his picture taken, need not be ashamed of it, if the artist draws it correctly. There is something in his face and manner which marks him as the finest boy in the group. Compare his countenance with that of the little fellow who is looking on the paper as the drawing progresses, and notice how much more strength of character it shows. He does not allow his attention to be called away from the business in hand, by the whispering of the mischievous urchin who is trying to make him turn his head, but remains steady in his position. Will this boy *keep* his fine face, which the artist is trying to draw? He may by continuing to be as noble and virtuous as his looks indicate; but should he permit bad passions to rule him, they will sadly change it. It is related of one of the old painters that he drew the portrait of a beautiful boy, to represent "Innocence." Many years after he wished to exhibit a picture of "Guilt," and searched through the prisons for a man whose looks would best express it. At last he found one, whose every feature was made hideous by wickedness, and painted his likeness. What was his astonishment afterward, to learn that it was the same person whose picture he had taken when a boy. Vice had left its deforming marks, and transformed the beautiful boy into a monster.—Few accomplishments which a boy may learn will yield more pleasure than the art of drawing. Some have a natural talent for it, and become skillful in it very easily; but any young person with the full use of his eyes and fingers may succeed at least tolerably well; enough to correctly represent all common objects. It is considered a disgrace not to be able to write, and the same pains taken in learning to draw would give equal success as in learning to use the pen. At times such knowledge is of the greatest use, as by it descriptions can be given and facts preserved much better than by any use of words. A good teacher may greatly aid in learning to draw, but after all, practice must give skill, and this may be had without any instructor. Take a lead, or slate pencil, and begin by trying to draw straight lines without a ruler, then curved ones, and when this can be done with ease and precision, endeavor to copy plain figures. By persevering for an hour or less time every day, you will be surprised with your progress in less than a year.

A Mother's Hand.

In one of the fierce engagements with the rebels near Mechanicsville, in May last, a young lieutenant of a Rhode Island battery had his right foot so shattered by a fragment of shell that, on reaching Washington after one of those horrible ambulance rides, and a journey of a week's duration, he was obliged to undergo amputation of the leg. He telegraphed home, hundreds of miles away, that all was going well, and with a soldier's fortitude composed himself to hear his sufferings alone. Unknown to him, however, his mother, who had become anxious for the welfare of her son, had come to Washington. She reached the city at midnight, and the nurses would have kept her from him until morning. One sat by his side fanning him as he slept, her hand on the feeble, fluctuating pulsations which forboded sad results. But what woman's heart could resist the pleadings of a mother then? In the darkness, she was finally allowed to glide in and take the place at his side. She touched his pulse as the nurse had done. Not a word had been spoken; but the sleeping boy opened his eyes and said: "That feels like my mother's hand! Who is this beside me? It is my mother; turn up the gas, and let me see mother!" The two faces met in one long, joyful, sobbing embrace, and the fondness pent up in each heart sobbed and panted and wept forth its expression. The gallant fellow just twenty-one, his leg amputated on the last day of his three years' service, underwent operation after operation, and at last, when death drew nigh, and he was told by tearful friends that it only remained to make him comfortable, said "he had looked death in the face too many times to be afraid now," and died as gallantly as though falling under the enemy's fire on the field of battle.

The Value of Good Manners.

A man of good repute in Wall-st., New-York, the other day applied to a well-known citizen to rent him a furnished house. He was refused. A mutual friend expressed surprise. "He stands well on the street." "Yes." "His family are highly esteemed." "Yes." "He is known to be punctual in all his pecuniary engagements." "Yes." "Well, why don't you let him have your house, at your own price, while you are away?" "Because, he came into my parlor and sat on my sofa with his hat on. Such a man can not have habits of personal neatness. He would spit on my carpets; he would break my chair backs tilting them against the wall, and soil it with his unkempt hair. The presumption is, his family are like him at all events, and he alone could injure my furniture more in six months than would be the profits of renting. No sir! a man who sits in my parlor with his hat on, the first time he enters it, can not rent my house at any price." Let the young remember that the character will "crop out" in the manners, in the little actions of life, and that if these are unexceptionable, and if they are uniformly neat, methodical, prompt, and energetic, these qualities will prove a passport to "good places," and to that thrift which brings with it a quiet mind and length of days.

CHILD-LIKE.—A mother trying to get her little daughter of three years old to sleep one night, said to her, "Anna why don't you try to go to sleep?" "I am trying," she replied. "But you haven't shut your eyes." "Well, can't help it; *ums comes unbuttoned.*"

THE BOY who undertook to ride a horse-radish, is now practising on a saddle of mutton, without any stirrups.

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T. B. Myers	"	1 00
Wm. J. Walters	"	1 00
H. C. Marvin	"	1 00
Jacob Striffler	"	1 00

KENTUCKY.

H. P. Thompson	Pendleton	2 09
Mrs. P. Johnson	Boyle	1 00
Henry Rabich	Davies	5 00
Hiram Kallam	"	3 00
Jacob Roby	"	2 00
Joseph Aud	"	1 00
C. C. Cary	Jefferson	1 00

WISCONSIN.

S. Armstrong	Racine	1 00
J. F. McConnell	Fond du Lac	2 00
Soldier's Friend	Columbia	5 00
Jacob Jaeger	Milwaukee	1 00
W. J. H.	Dane	1 00
Wm. W. Gillett	Grant	1 00

IOWA.

Mrs. F. Bosworth	Madison	1 00
R. McCalman	Washington	2 50
J. Willie Cable, 5 yrs	Des Moines	2 00
John Ruedy, Jr.	Fremont	1 00
S. W. Robinson	Taylor	1 00
M. A. Livermore	Benton	1 00
Bernand Hettich	Jefferson	1 00
H. C. Sigler	Clark	25 00

MINNESOTA.

James Randolph	Le Suer	5 00
Lucius Snow	Goodhue	1 00
N. Engles	Wabashaw	1 00
Orrissa Caroline Kingsbury	Fillmore	5 00
Lillian Maria Kingsbury	"	5 00
Mrs. James Dixon	Olmstead	1 00
L. S. Cravath	Winona	1 00
Amanda Bisbee	Fillmore	1 00
B. J. Mathews & others	Dakota	10 75
Mrs. E. B. Drew	Winona	5 00
C. Kauffmann	Ramsey	50

NEBRASKA.

Alex. Livingstone	Cass	1 00
Sarah A. Livingstone	"	1 00
George E. Sayles	"	1 00
Isaac Waldrat	"	1 00
F. E. Caldwell	"	1 00
Eveline Caldwell	Cass	1 00
Cora W. Child	"	1 00
Julia E. Child	"	1 00
A. L. Child	"	1 00
J. T. A. Hoover	"	1 00
J. Inhelder	"	1 00
Frank Stander	"	1 00
T. Valery	"	1 00
J. Mutz	"	1 00
Wm. Smith	"	50
Wm. Colvin	"	50
G. W. Jeffers	"	50
J. P. Ruby	"	1 00
G. F. Lee	"	25

CALIFORNIA.

Rev. J. Rogers	Sierra	1 00

COLORADO TERRITORY.

L. H. Perrin	Arapahoe	1 00

CANADA.

J. S. Walton	Sherbrooke	6 10

Commercial Notes.

The following condensed, comprehensive tables, made up to July 16, show the transactions the past month.

1. TRANSACTIONS AT THE NEW-YORK MARKETS.

Receipts.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
25 days *this* m'th	344,000	2,127,500	773,400	36,000	37,000	876,000
28 days *last* m'th	357,000	3,130,000	689,000	20,200	264,000	1,779,000

Sales.	Flour.	Wheat.	Corn.	Rye.	Barley.
25 days *this* month,	549,000	3,978,000	1,546,000	10,300	81,000
28 days *last* month,	515,000	4 156,000	668,000	13,400	45,000

2. *Comparison with same time last year.*

Receipts.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
25 days 1864	344,000	2,127,500	773,400	3,600	37,000	876,000
24 days 1863	552,000	2,874,000	2,769,000	48,000	28,500	1,255,000

Sales.	Flour.	Wheat.	Corn.	Rye.	Barley
25 days 1864	549,000	3,978,000	1,546,000	10,300	81,000
25 days 1863	411,000	2,929,000	2,866,000	93,000	11,000

3. *Exports from New-York Jan. 1. to July 16.*

	Flour, bbls.	Wheat, bus.	Corn, bus.	Rye, bus.	Oats. bus.
1864	1,091,048	7,991,145	175,235	405	22,481
1863	1,339,192	7,904,547	5,871,333	318,103	104,889
1862	1,552,583	8,045,042	6,612,533	849,983	22,023

4. *Receipts at Albany, by Canal, each of the last three seasons, to July 1st.*

	Canals opened May 1, 1862.	May 2, 1863.	April 30, 1864
Flour, bbls	387,800	402,100	224,700
Wheat, bush	7,543,000	5,635,800	5,626,306
Corn, bush	3,979,800	6,814,100	1,797,100
Barley, bush	362,500	55,700	137,000
Oats, bush	1,125,500	2,839,600	2,646,900
Rye, bush	291,200	91,200	64,500

CURRENT WHOLESALE PRICES.

	June 15.		July 16.	
Flour—Super to Extra State	$7 65	@ 8 40	$9 00	@10 50
Super. to Extra Southern	8 20	@11 60	10 25	@14 00
Extra Western	8 10	@11 00	9 00	@12 00
Extra Genesee	8 50	@10 00	10 50	@12 00
Superfine Western	7 70	@ 7 90	9 00	@ 9 50
Rye Flour	7 00	@ 8 25	8 50	@10 00
Corn Meal	7 40	@ 7 85	7 75	@ 8 40
Wheat—All kinds of White	2 00	@ 2 12½	2 65	@ 2 75
All kinds of Red	1 80	@ 2 00	2 25	@ 2 52
Corn—Yellow	1 48	@ 1 53	1 63	@
Mixed	1 44	@ 1 47	1 57	@ 1 60
Oats—Western	91	@ 92	96	@ 98
State	90	@ 91	96	@ 97
Rye	Nominal.		1 90	@ 1 95
Barley	Nominal.		Nominal.	
Cotton—Middlings, per lb	1 40	@	1 62	@ 1 64
Hops, crop of 1863, per lb	15	@ 28	15	@ 30
Feathers, Live Geese, p. lb	80	@ 82½	85	@ 90
Seed—Clover, per lb	12½	@ 13	17	@ 17½
Timothy, per bushel	2 75	@ 3 25	3 50	@ 3 75
Flax, per bushel	3 35	@ 3 50	3 50	@ 3 75
Sugar—Brown, per lb	15½	@ 22½	20	@ 25
Molasses, New-Orleans, p.gl.	87½	@ 1 00	1 10	@ 1 25
Coffee, Rio, per lb	41	@ 44	52	@ 55
Tobacco—Kentucky,&c,p.lb.	12½	@ 30	14	@ 36
Seed Leaf, per lb	18	@ 65	25	@ 65
Wool—Domestic fleece, p. lb	75	@ 88	90	@ 1 12½
Domestic, pulled, per lb	65	@ 86	80	@ 1 07½
Wool, California, unwashed	20	@ 60	30	@ 65
Tallow, per lb	15	@ 15½	19	@ 20
Oil Cake, per tun	55 00	@63 00	70 00	@75 00
Pork—Mess, per bbl	37 00	@37 50	35 00	@36 00
Prime, per bbl	32 00	@32 25	33 00	@34 00
Beef—Plain mess	17 00	@20 50	20 00	@24 00
Lard, in bbls., per lb	15¾	@ 16¾	18	@ 19
Butter—Western, per lb	25	@ 32½	32	@ 41
State, per lb	28	@ 38	35	@ 44
Cheese	10	@ 18	17	@ 23
Beans—per bushel	2 50	@ 2 80	2 30	@ 2 80
Peas, Canada, per Bushel	1 40	@	1 45	@ 1 50
Broom Corn—per lb	12	@ 14½	13	@ 15
Eggs—Fresh, per dozen	22	@ 23½	24	@ 26
Poultry—Fowls, per lb	18	@ 20	20	@ 21
Turkeys, per lb	17	@ 18	19	@ 20
Pigeons—Wild, per doz	1 25	@ 1 50	1 50	@ 1 75
Potatoes—Mercers, p. bbl	3 50	@ 4 00	3 50	@ 4 00
Peach Blow, per bbl	4 00	@ 4 25	4 25	@ 4 75
Prince Albert	3 00	@ 3 50	3 00	@ 3 50
New Bermuda, per barrel	9 00	@10 00		@
Dried Apples, per lb	10½	@ 11½	10¾	@ 11½
Dried Peaches, per lb	26	@ 28	26	@ 28
Dried Raspberries per lb	28	@ 30	28	@ 30

At the date of our last, (June 16,) gold was quoted at 197. It has since been as high as 290. Yesterday (July 15) it fell to 242@244. Such violent fluctuations in the market price of the precious metal have produced equally extreme changes in the currency values of the principal kinds of produce and mercandise. At one time, (within the month,) speculation was quite brisk, in breadstuffs, provisions and groceries, cotton, wool, tobacco, hides, leather, &c., leading to a rapid inflation in prices of such articles, and checking the regular demand from home consumers and shippers. Recently the leading money lenders have been less disposed to make advances to dealers in produce, unless at enormously high rates of interest, (ranging from 1¼c. to 5 per cent a month, or equal to from $15@$60 per annum, for the use of every $100). Of course speculators could not afford to borrow on such terms, and have consequently been forced to sell out, as far as practicable, in a rapidly declining market, depressed by these efforts to realize and by the heavy fall in gold. Hence, the business of the month in all kinds of domestic produce closes up tamely and feverishly; holders being generally very eager to sell, and buyers reluctant to purchase freely. Merchants anticipate early and decisive national victories in Virginia and Georgia, which must inevitably force gold down close to its real value, and bring about a corresponding reduction in the market price of all the prime necessaries of life. In view of the extraordinary fluctuation (of almost daily occurrence) in the prices of the principal agricultural products, during the past month, it would be altogether useless to enter into an elaborate review of the movements in each article. The closing currency prices of most commodities, (though in some instances far below the extreme figures ruling two weeks since,) are much higher than those obtainable at the date of our last.

Advertisements.

Advertisements, to be sure of insertion, must be received BEFORE the 10th of the preceding month.

N. B.—*No Advertisement of Patent Medicines or secret remedies desired. Parties unknown to the Editors personally or by reputation, are requested to furnish good references. We desire to be sure that advertisers will do what they promise to do. By living up to these requirements, we aim to make the advertising pages valuable not only to the readers, but to the advertisers themselves.*

TERMS— (cash before insertion):

FOR THE ENGLISH EDITION ONLY. (14 lines in an inch).

One Dollar per line of *space*, for each insertion.

One half column (74 lines), $65 each insertion.

One whole column (148 lines), $120 each insertion.

Business Notices, One Dollar and a Quarter per line.

German Edition, *Ten cents* per line; $10 per column.

A NURSERYMAN with some capital may hear of a good situation by addressing G. W. McGREW, Park Nursery, Lawrence, Kansas.

Balloon Ascensions

Made for Agricultural Societies and other parties, on the most reasonable terms. Address ALLEN & HORNING, Aeronauts, Providence, R. I.

Morris' Concentrated Lemonade.

Price $4.50 per doz., in cases of 2 doz.

See pages 71 and 93 March *Agriculturist*.

WM. H. MORRIS, Wholesale Agent, 151 Nassau-Street, New-York.

Pure Italian Queen Bees.

For sale by M. QUINBY, St. Johnsville, N. Y

Russell's Great Prolific STRAWBERRY.

I have now growing a large stock of this justly **celebrated and unequalled variety**, and having taken great care of the runners this season, I can fill orders with unusually strong and well rooted plants. Of the very large number of this kind sent out by me last spring, there was scarcely a failure, and the very fine order in which they were received by my customers in the most distant States and Territories, gave, as per letters sent me, entire satisfaction, many saying they were the best plants they had ever received.

Sent by mail postage paid, 30 plants for		$1 00
" " " 100 "		$2 50
" Express at 100 "		$3 00

Large orders at less rates.

I have also a fine stock of all the **valuable** new and old varieties of **Strawberries, Raspberries, Grapes, &c.**, and those desiring to purchase are requested to send for my price list. Correspondence solicited.

EDWIN MARSHALL,
Po'keepsie Small-Fruit Nursery,
Po'keepsie, N. Y.

A New Strawberry. MEAD'S SEEDLING.

Large, conical berry, brilliant scarlet color, glossy surface, and sweet, juicy flesh of the highest flavor. Price $4 per dozen; $25 per hundred. Ready this fall. For circular, etc., address PETER B. MEAD, Room 43, Moffat Building, 335 Broadway, New-York.

STRAWBERRIES.—Now is the time to plant for a spring crop. All the new sorts are now ready. Priced descriptive Catalogues of my large collection of Strawberries and all other Fruit and Ornamental Trees and Plants will be forwarded on application. Plants carefully packed and pre-paid by mail. B. M. WATSON, Old Colony Nurseries, Plymouth, Mass.

AGENTS WANTED
TO SELL
H. H. LLOYD & CO.'S MAPS CHARTS, AND PRINTS
TO SUIT THE TIMES.

The demand is now immense and Agents are making money very fast. Several new works are ready.

The present volume of the Agriculturist, page 37, has the following:—

"**War Maps.**—We have received from H. H. Lloyd & Co., several very good maps, among them one which shows at a glance, and in an interesting form, the progress of the war, the original and the present territory occupied by the rebels, the battle fields, etc. Note that this is H. H. Lloyd & Co., 21 John-st.,—a prompt and responsible House, we have every reason to believe."

☞ Send for our new PRICE LIST and Circular. Address

H. H. LLOYD & CO.
Map and Chart Publishers,
21 John street, N. Y.

THE NEW BOOK ON THE CULTIVATION OF FLOWERS.

From the New York Times.

FLOWERS FOR THE PARLOR AND GARDEN. By Edward Sprague Rand, Jr. Illustrated by John Andrew and A. C. Warren. 8vo. Boston: J. E. Tilton & Co. Price, $2.50; half calf, $3.50; full Turkey, $5.

Though allied to the annual tribe by its beautiful execution, the interest of this book is perennial, and will endure as long as admiration of the beauties of natnre's works marks the existence of refined taste and elegant culture. It will interest all classes engaged in the raising of flowers, from the possessors of the aristocratic green-house and conservatory, to those whose share of the soil is confined to the contents of the box before the window, or the hanging basket that decorates the only room. It is, indeed, one of the greatest blessings connected with floriculture that its kindly influence may be shared by all classes, however humble may be the scale on which it is pursued. The directions given seem ample for all necessary instruction, and an ornamental charm is imparted to the volume by a profusion of fanciful illustrations on wood. They will compare, without disadvantage, with any recent home or foreign specimens of the art, and give an air of elegance to the practical, prosaic part of the work. The mechanical execution of the volume could, indeed, scarcely be improved, and is highly creditable to the young house, who may take the credit of producing a *Vade Mecum*, welcome in every home of refinement.

Strong Concord, Delaware, Rogers'

Hybrid, Allen's Hybrid, Crevcling, Hartford Prolific, Diana, Maxatawney, Adirondac, and Iona, at low prices. We call particular attention to Rogers' Hybrid, No. 19, as the largest, earliest, and best hardy black grape yet introduced. It is a cross between the Black Hamburg and native, combining the fine flavor of the foreign with the hardiness of the native. Our vines are produced from the wood of the original vines of which we have the entire stock.

Salem, Mass., Nov. 26, 1863.

[$75.] Received of Wm. Perry & Son, seventy-five dollars for all the wood of my No. 19, Rogers' Hybrid. E. S. Rogers.

Descriptive catalogues containing a cut of Rogers' Hybrid sent to all applicants enclosing stamp to prepay postage. Address WM. PERRY & SON, Bridgeport, Conn.

GRAPES.

Our new Catalogne for fall of 1864 is now issued, and will be sent to all applicants enclosing stamp. Our stock of

250,000

vines, grown in the open air, including all the old and new kinds of any merit, is ususpassed anywhere.

J. KNOX,
Box 155 Pittsburgh, Pa.

Lane's Purchasing Agency. STRAWBERRIES.

Orders received for all the new and desirable kinds of strawherries.

Mr. Wm. F. Heins, one of the most successful amateur cultivators near New-York, recommends the following varieties.

Early.—Jenny Lind and Downer's Prolific, $1 per 100.

Main Crop.—Triomphe de Gand, $1 per 100; Green Prolific, Russell's Prol'fic, Lenning's White, 75c. per doz.; $2.50 per 100; Brooklyn Scarlet and Monitor, $1 per doz.; $5 per 100. **The Agriculturist,** 75c. for 1; $1.20 for 2; $3 for 6; $5 for 12; $25 for 100.

Late.—La Constante, 75c. per doz.; $3 per 100.

HARVEY B. LANE,
151 Nassau-st., New-York.

STRAWBERRIES.

Send for onr new Catalogne, giving descriptions of varieties that have proved the most valuable the past season, modes of enlture, prices of plants, &c., &c. Onr plants are grown with great care, and can not fail to give satisfaction.

J. KNOX,
Box 155, Pittsburgh, Pa.

GRAPE VINES.

My stock this season, comprising all the hardy varieties, is larger than ever before, and at present promises to excel in quality the product of any former year. So much depends upon the after part of the season that it is impossible to speak with precision upon that point at present. They will have all of the excellence that the most attentive care and skill, aided by unequalled facilities in the most favorable locality for their production, can give them, and I do not hesitate to promise to purchasers the most advantageous vines—the **cheapest and best** that can be obtained both for garden and vineyard.

The full measure of success in grape culture is not attainable without some knowledge of the conditions upon which success depends.

To supply this knowledge, I have prepared two publications which embody the results of long and extensive personal experience. Although named Catalogues, the two together comprise the most thorough and comprehensive treatise on the vine that has been published in this country.

The Descriptive Catalogue, with price list, is the only publication that fully describes the characteristics and relative value for garden and vineyard of all of the Native vines that are worthy of attention. Besides a very large amount of other important matters not discussed in any other publication, it contains a chapter on the "Quality of Grapes and the education of Taste," by R. G. Pardee, a Lecture on the "Conditions of Success in Grape Culture," by Peter B. Mead, and a chapter on "Wine and Wine-making." It is illustrated with forty engravings and sent for 10 cts.

The Illustrated Catalogne is a thorough treatise on the planting, management, propagation and training of the vine in the garden and vineyard, illustrated with more than sixty engravings. It is sent for fifteen cents.

The two are also sent bound together in flexible paper covers for thirty-five cents. A large part of the engravings are taken from living vines, and are the most truthful and spirited ever published.

N. B.—The two new native seedlings are worthy of attention by every one who has place and disposition to cultivate any vines; for full description of which see Descriptive Catalogue.

C. W. GRANT,
Iona, near Peekskill, Westchester Co., N. Y.

15,000 APPLE TREES AND OTHER varieties of Fruit and Ornamental Trees. For Catalogue address G. H. BANTA, Tappantown, Rockland Co., N. Y.

DELAWARE VINES AT LOW PRICES.

PLANTERS, who are forming Vineyards, and

NURSERYMEN who wish plants for stock, will find it their interest to examine the one-year-old plants of

PARSONS & CO.,

Which they offer

At the following low prices:

No. 1. $25 00 per 100.—$200 00 per 1000.
No. 2. $15 00 per 100.—$125 00 per 1000.
$1000 00 per 10,000.
No. 3. $12 00 per 100.—$100 00 per 1000.
$750 00 per 10,000.

These plants are produced from cuttings of bearing vines. The accompanying sketch of one of them will show that

they are not the mere straws so often employed, but mostly of large size. They are so grown as to ensure an abundance of fibrous roots and thoroughly ripened wood.

The testimony of those who have purchased them for the last two years is of the most favorable character.

In consequence of the low price, their stock of Delawares has for two years been bought up early in the autumn by a few persons. The proprietors wish them more widely scattered, and hope therefore, that those who desire to purchase, will send their orders early.

In consequence of the great difficulty in growing the Delaware the first year, nurserymen will find it their interest to purchase largely to plant for stock.

The Proprietors can also furnish

other **HARDY GRAPES,** including **Concord, Diana, Crevcling, Iona, Allen's Hybrid, Adirondac,** and other new sorts.

Address

PARSONS & CO., Flushing, N. Y.

Trees! Trees!! Trees!!!

Rare chances for large Trees. 50,000 extra fine Apple Trees 8 to 10 feet high, sorts well suited to Southern and Central Pennsylvania. Prices reasonable for size and quality of trees.

☞ No Agents either traveling or stationary, recognized unless bearing authority from the Proprietor. Address

DAVID MILLER, Cumberland Nurseries,
Carlisle, Penn.

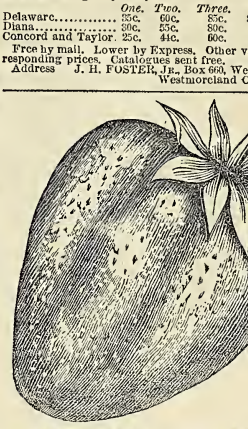
Vines by Mail.

Having raised a large stock of superior plants, I offer them at the following very low prices:

	One.	*Two.*	*Three.*	*Six.*	*Twelve.*
Delaware	35c.	60c.	85c.	$1 60	$3 00
Diana	50c.	85c.	80c.	1 50	2 75
Concord and Taylor	25c.	40c.	60c.	1 15	2 00

Free by mail. Lower by Express. Other varieties at corresponding prices. Catalogues sent free.

Address J. H. FOSTER, Jr., Box 660, West Newton, Westmoreland County, Penn.



STRAWBERRIES.

"Agriculturist." The prize berry of America.

A large stock of this fine variety for sale. 2 plants for $1.20; 6 for $3.00; $5.00 per doz.; or $25.00 per hundred, 100 plants and under, sent free by mail when desired.

Also a splendid collection of all the new and finest varieties of Europe and America. For particulars see advertisement in July number of American Agriculturist.

All orders addressed to WM. S. CARPENTER,
329 Greenwich-st., New-York.

Choice Flower Seeds.

For Sowing in August and September.

B. K. BLISS,

Seedsman and Florist, Springfield, Mass.,

Would invite the attention of all who are interested in the culture of Flowers, to the following list which have been carefully selected from the stock of several of the most successful Cultivators and Exhibitors in Europe, and can he confidently recommended.

Calceolarias, Extra select, from flowers which took the first prize at the late London and Continental Exhibition 50
do. Fine mixed, spotted and selfs 25
do. Rugosa, from the finest shrubby varieties, suitable for pot-culture or for bedding 50
Cineraria, Extra choice, from all the new varieties.. 50
do. Fine mixed, from the best old varieties 25
Gloxinia, From the finest erect and drooping varieties 50
Hollyhocks, (Very double,) saved from his unrivalled collection of seventy-five English varieties, if sown now will flower freely next year (100 seeds) 25
Pansy English, Extra select, saved from the finest prize flowers 50
Pansy New Fancy, Very beautiful 50
Pansy German, (Variegated,) mottled and striped, very showy 25
Pansy English, Fine mixed 25
Primula Sinensis(Imbriata, (Chinese Primrose fringed,) various colors mixed, extra quality 50
do do do White 25
do do do Rose 25
Pink, Tree, or Perpetual Carnation, Continue in flower a long time, extra quality (20 seeds) 50
Pink, Carnation and Picotee, From celebrated German collection 50
Polyanthus, Finest mixed varieties from the collection of an English amateur 25
Mimulus, Finest mixed golden yellow and white ground, covered with crimson, rose and scarlet blotches 25
Mimulus tigridoides, A new hybrid variety, flowers beautifully marked, a great acquisition 25
Tropæolum, Finest mixed varieties for green-house. 25
Stock, Scarlet and White intermediate London, extra, each 25
Stock, French Cocardeau, Scarlet Purple and White, mixed, fine for winter flowering 25
Stock, New German Ten Weeks, Extra fine, many colors mixed 25
Rhodanthe Maculata, Maculata alba, Atrosanguinea, 3 beautiful varieties of this beautiful Everlasting, excellent for pot-culture, each 25
Sweet Williams, Hunt's extra select 25
Sweet Williams, New Auricula-flowered 25
Two English varieties of great merit, far surpassing anything hitherto offered.
Wallflower, Extra fine double German 25

Either of the above named seeds, with full directions for culture, will be sent by mail, post-paid, to any address in the Union, on receipt of the price affixed, or the entire collection for $8.

Twenty Select Varieties

Of Hardy Annuals, Biennials & Perennials,

for fall sowing, will also be sent post-paid for $1. Orders must be accompanied with the cash. Address

B. K. BLISS, Springfield, Mass.

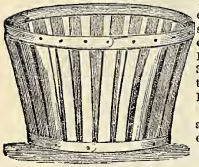
New Strawberries.

The following new prize European varieties imported this season, carefully packed and sent by mail at $2.00 per dozen. Bijou, Haquin, Hero, Leon de St. Laneur, Lorenz Booth, Progress, Saroneuse, Souvenir de Kieff, Lucida Perfecta, Virginie. Those which fruited this season were very fine. "Agriculturist," 75c. each; $3.00 for six; $5 per dozen. Boyden's Green Prolific, 75c. per doz.; $3.00 per 100; $20 per 1000.

Russell's Prolific, 50c. per doz.; $2 per 100; $15 per 1000. Carefully packed and sent by mail at the dozen price. For descriptions of these and over fifty more varieties, see my new Catalogue, mailed free to all applicants.

Address FRANCIS BRILL, Newark, N. J.

Fruit Baskets for 1864.



To any or all fruit growers and dealers we respectfully recommend our improved FRUIT BASKET, Patented May 31st, 1864, and known as the **Veneer Fruit Basket.**

Circulars of description and price will be furnished on application to us.

A. BEECHER & SONS, Westville, Conn.

Also for sale by W. H. Carpenter, 90 Vesey-st., New-York.

Turnip Seeds by Mail.

The following varieties will be mailed post-paid to any address in the Union upon receipt of prices affixed.

10 *cts.*	30 *cts.*	50 *cts.*	75 *cts.*
1 ounce.	4 ounces.	8 ounces.	1 pound.

Early Dutch, Snowball, Red Top Strap Leaf, White Top Strap Leaf, White Globe, White Norfolk, Yellow Aberdeen, Yellow Finland, Robertson's Golden Ball, Orange Jelly, Teltau or small Berlin, Long White French, White Tankard, Long White or Cow's Horn, Waite's Eclipse, Dale's Hybrid, Laings's Improved Rutabaga, Skirving's do., Stubble Swede.

Also Chinese Winter Radish. 25 *cts. per ounce.*

Winter Spinach, same price as turnip seed. Please address **B. K. BLISS, Springfield, Mass.**

Sanford & Mallory's

FLAX AND HEMP DRESSERS

are no longer an experiment. Over 200 No. 1 Brakes have been sold and are in

PRACTICAL USE.

A pamphlet will be sent free of charge by writing.

JOHN W. QUINCY, AGENT,
No. 98 William-st., New-York.

TESTIMONIALS.

JANESVILLE, Wis., April 25th, 1864.

Mr. John W. Quincy, Treasurer of Mallory & Sanford Flax and Hemp Machine Co., 98 William-st., New-York:

DEAR SIR.—In answer to your request for our opinion of the Mallory & Sanford Flax Brake, we would say that we have had one of them in use in our mill for the past four months, and that it works to our perfect satisfaction. We consider it the best Brake we have ever seen for straight straw, and intend ordering two more for the coming season.

Respectfully yours,
BLACKWELL & MALLORY.

ORVILL, Pa., April 18th, 1864.

Messrs. Mallory and Sanford:

GENTLEMEN.—After having your Flax Machine fairly tested by competent judges, I concur with them in saying it is the most simple, the most durable, and executes its work better than any machine I have ever examined.

Yours respectfully,
S. N. BRONSON,
Dealer in Machinery and general Hardware.

DAYTON, Ohio, April 20th, 1864.

John W. Quincy, Treasurer.

DEAR SIR.—In answer to your request for an expression of opinion in regard to the Sanford & Mallory Flax Brake, I will state that they have fulfilled my expectations. I have used them quite extensively, having used FOUR OF THEM (No. 1), for more than one year. I am able to break one ton of straw per day upon each brake, and when called for, have done more. They do the work well, and bring the lint out in good condition—much better than the old-fashioned machine. My short experience with them satisfies me of their excellence. Yours truly,

JOHN P. COMLY.

Mr. Comly has been working our machines on tangled and straight straw.—M. & S.

WEST AUBURN, Susquehanna Co., Pa., April 11th, 1864.

Messrs. Mallory and Sanford:

GENTLEMEN.—I have been using one of your No. 1 Brakes during the past winter—most of the time doing custom work. Our customers are generally, I believe, well satisfied with it. The flax dressed by it is said to be softer and finer than that broken by the old-fashioned brakes. Yours truly,

W. F. COBURN.

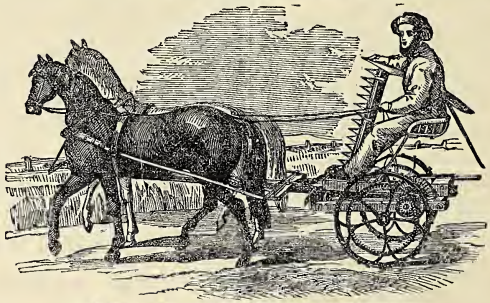
THERESA, Jefferson Co., N. Y.

Messrs. Mallory and Sanford, New-York:

GENTS.—We have used one of your Patent Flax Brakes for the past four months, to our entire satisfaction—producing from 400 to 500 lbs. of well scutched flax per day of ten hours, depending upon the quality and condition of the straw. Having examined the best Flax Mills in the United States and Canadas, we are fully satisfied that the best machine in use for flax dressing is the Mallory & Sanford Brake.

Yours truly,
J. H. HELMER & CO.

IMPORTANT TO MANUFACTURERS OF MOWING MACHINES



THE UNION MOWER.

The demand for the Union Mowing Machine has increased so rapidly for the last three years that the Union Mowing Machine Co. find it impossible to supply the great demand for the Machine, and have decided to grant licenses to manufacture and sell the Machine in all the States and Territories west of New-York, and south of Virginia, including the western parts of the States of Virginia and Pennsylvania.

Any person desirous of obtaining the exclusive license to manufacture and sell the Union Mower in any of the counties, States or Territories, as above indicated, can obtain descriptive pamphlets of the Machine, together with any other necessary information by addressing

UNION MOWING MACHINE CO.
Worcester, Mass.

Flax Cotton.

Machinery to test the experiment of Manufacturing Flax Cotton.

The appropriation of $2,000 to test the practicability of manufacturing flax cotton, to be expended under the direction of the New York State Agricultural Society, is still open to competition to all who are investigating the subject. The Society desire to call the attention of the public to this subject. The Committee appointed to examine applications consists of Samuel Campbell, New York Mills, Chairman; John Stanton Gould, Hudson, Alfred Wild and B. P. Johnson, Albany. The Committee will, on application, examine any machinery that may be presented, and the processes adopted. Notice can be given to the Secretary of the Society, or to any member of the Committee, who will furnish the necessary information.

B. P. JOHNSON, Secretary, Albany, N. Y.

To Farmers and Butchers.

We are now manufacturing patented implements, for catching swine and other animals, without venturing near them. They are invaluable for securing wild or vicious animals. Numerous testimonials have been received from persons using them, and each one is **warranted** to give perfect satisfaction. We will send by express, single machines, where hardware stores are not supplied, on receipt of **One Dollar.** Usual discount to the trade. Send for Illustrated Circulars. GOLDSMITH & GREGORY, Goshen, N. Y.

The Best and Cheapest Farming

LANDS IN THE WHOLE WEST, ARE THOSE OF NORTHERN MISSOURI.

Rebels are moving away and are selling for whatever they can get. An extensive immigration from the Northern States and from Europe already begun, will soon occupy that part of the State and develope its immense natural wealth. Free and full information given on application to

ELI THAYER, 1 Park Place, New-York.

Prairie View Farm for Sale.

A beautiful farm of 160 acres situated near the Fox River, in Kendall Co., Ill. Substantially improved with good fences, house, barn, fruit, &c.

A fine Durham Stock, Horses, Tools, and Household Furniture for sale with the farm if desired.

Address P. PORTER WIGGINS,
Oswego, June 30th, 1864. Oswego, Kendall Co., Ill.

TO FARMERS

AND OTHERS.

We are manufacturing a Genuine Article of **VERY FINE BONE DUST,** and **RAW BONE SUPERPHOSPHATE OF LIME,** manufactured from unburned Bones, containing all the Animal and Chemical Fertilizing Properties. Please address the Manufacturers, and get the Intrinsic Value of your money.

N. B. A Liberal Discount made to Dealers for Cash,
Address A. LISTER & BRO.,
Newark, N. J.

Bruce's Concentrated Manure.

Those who have used the above valuable fertilizer the past year, give it the preference over

No. 1 Peruvian Guano, Bone, or **Pondrette.**

In the year 1862, some **fifty tons** were sold. Last year orders came in to the amount of **four hundred tons,** only half of which could be filled. This year we shall manufacture **ONE THOUSAND TONS.**

Its "component" parts are:

40 per cent. of Animal fibre and Blood.
40 per cent. of pure Ground Bones.
20 per cent. of Absorbents.

The absorbents are Charcoal and Gypsum.

Price **$45 Per Ton,** packed in barrels 250 lbs. **in each.**

Send for Circular. Send your orders to
GRIFFING BROTHER & CO.
58 and 60 Courtlandt-st., New-York.

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2,800 Acres in 7 farms all adjoining, located in Charles County, 18 miles from Washington City. Upon each farm are good Dwellings and out-buildings, the land is of clay loam and very productive in Tobacco and Fruit, price in the aggregate, $25 per acre. For a healthy and profitable settlement with choice of neighbors this offers the best of inducements. For sale by R. W. TEMPLEMAN & CO., Baltimore City, Maryland.

WANTED—To exchange for a small farm, improved or unimproved property in Brooklyn. E. C., 41 Park-row.

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"Agriculturist," 75c. each; $3.00 for six; $5 per dozen.

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Austin—Shakers	35c.	$1 50	$10 00
Bartlett or Boston Pine	35c.	1 00	7 50
Cutter's Seedling	35c.	1 00	7 50
Downer's Prolific	35c.	1 00	7 50
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Hovey's Seedling	35c.	1 00	7 50
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Plants carefully packed and sent pre-paid by mail, at the price per dozen, and by Express by the hundred or thousand.

Catalogues descriptive of the above, and over fifty more choice varieties, including ten *new prize sorts*, imported from Europe this season, with directions for cultivation now ready. It contains also lists of Trees, Vines, Shrubs, &c., grown at my Nursery, and is furnished free by mail to all applicants. Address FRANCIS BRILL, Newark, N. J.

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I shall sell this season about 100 head, viz.: 20 rams; 40 ewes, and 40 lambs. My lot of yearling rams have never been equalled in this contry.

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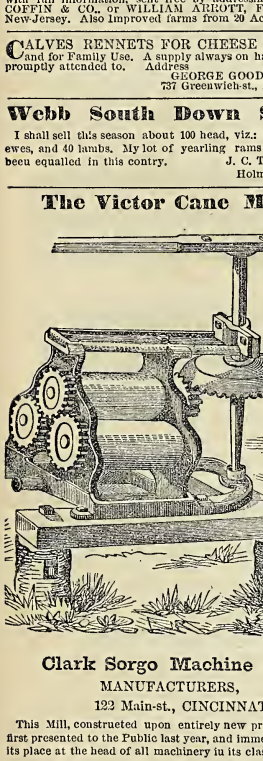

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MANUFACTURERS,

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This Mill, constructed upon entirely new principles, was first presented to the Public last year, and immediately took its place at the head of all machinery in its class.

Five State Fair Frst Premiums!

Were awarded it in rapid succession

Over the Six leading Mills of the Country.

The following are its distinguishing features

Gearing Lapped, by which the Scraper is discarded and Choking rendered Impossible, Diagonally Braced.—Main Roll Flanged, Feed Roll Fluted.—Shafting supported in Oil-Tight Step-Boxes.—No Keys are used.—No Cog Wheels to break.—A Perforated False Bottom in the Rear of the Rolls to prevent Bagasse taking up the juice as it leaves the Rolls.—Mill taken apart in Five Minutes, simply by loosening Four Screws.

Six Sizes, $60 to $225.

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Italian Queen Bees.

From the Apiary of Dzierzon, which, at the last European Bee Convention, was unanimously declared to be the ONLY apiary in Europe from which RELIABLY PURE stock could be obtained. As I have an entire apiary of this stock, bred carefully for upward of four years, and shall TEST and GUARANTEE the PURITY, FERTILITY and safe delivery of queens, when sold, purchasers may RELY upon them.

A limited number of these Queens will be supplied this season at $10 each. Orders will be filled in strict rotation with their reception. Circulars sent on receipt of a 2 cent stamp.

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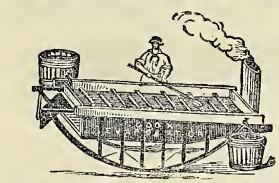
Progeny of Hogs that have taken State and United States Premiums, sent to all parts of the United States. For Circulars giving prices, etc. Address

N. P. BOYER & CO.,
Coatesville, Chester Co., Penn.

BEEF BONE WANTED.—20,000 round shin Beef Bone wanted in lots of 500 and upward, for which cash will be paid on delivery. Address A. L. SHIPMAN, 35 Ann-st., New-York.

The Unrivalled and only Successful



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The increasing favor with which this "Old Reliable" Evaporator is received, is without precedent in the history of Machinery. It has thus far proved to be the only successful mode of Manufacturing A 1 Sorgo Syrup with economy and despatch.

Since its appearance about 125 patents have been issued for contrivances which the Inventors hoped would rival if not supersede Cook's, but usually a few days' experiment with them has resulted in their rejection and a substitution of the unequalled Cook Evaporator. These experiments have taught Farmers that their Sorgo crop is too valuable to be wasted and ruined by untried machinery.

The superiority of the Cook is shown by the fact that it has taken

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It has taken the First Premium at 5 Ohio State Fairs in succession over heavy competition.

Over 6000 used last Year!

All Warranted and none returned.

The Cook is the cheapest per square foot; consumes least fuel per gallon; boils most rapidly; is of the best material and workmanship; is the most durable and convenient; is a **SELF DEFECATOR, and is the only Evaporator free from liability for infringement upon some previous patent.**

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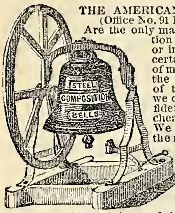

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Particular attention paid to Fruit. Consignments solicited.

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Greencastle, Putnam Co., Ind., under the patronage of the four Conferences of the M. E. Church, in Indiana. 28th year will open Sept. 14th. Location healthful. Expenses low. Courses of study as complete as the best Eastern Colleges. Worthy poor young men, especially returned soldiers, admitted to the Classical, Scientific, or Preparatory Departments, free of tuition. For particulars address the Prest. Dr. BOWMAN, or the Secretary, Prof. P. WILEY.

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Brown's Patent Baby Tender, a vertical and noiseless SPRING CRADLE, easily converted into a novel and delightful Baby-jumper, Baby-walker, High Chair, Nursery Chair, Hobby-horse, or Ottoman. The Baby Tender is emphatically the Mother's great want, and a blessing to Children. It is safe, healthy, strong and durable, obviates the evils of rocking, aud **saves the expense of a hired Nurse.** Send for Circular containing description, price, and high testimonials. Agents wanted.
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Kerosene Stove for Boiling, Baking, Stewing, Frying, &c.,
will save coal, and save heating up the house.
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Family Knitting Machines,
MANUFACTURED BY THE
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These Machines are invaluable for family use, being very simple in construction, and knitting a variety of stitches—Plain and Fancy. **Price $50.**

GUTTA PERCHA CEMENT ROOFING
Is Fire and Waterproof, and can be applied by any laborer. It costs about one-third as much as tin, and is more durable.
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As applied to leaky roofs of all kinds, will render them perfectly water-tight. It is put up ready prepared for use. This paint is particularly adapted for painting Out-houses, Barns, Fences, &c., &c.,
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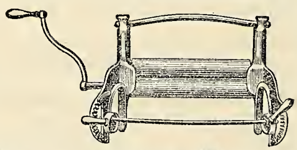

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IT IS THE ONLY RELIABLE
SELF-ADJUSTING WRINGER.

NO WOOD-WORK TO SWELL OR SPLIT.
NO THUMB-SCREWS TO GET OUT OF ORDER.
WARRANTED WITH OR WITHOUT COG-WHEELS

It took the FIRST PREMIUM at Fifty-seven State and County Fairs in 1863, and is, without an exception, the best Wringer ever made.

Patented in the United States, England, Canada, and Australia. Agents wanted in every town and in all parts of the world.

No. 2, $6 50. No. 1, $7 50. No. F, $8 50. No. A, $9 50.

Manufactured and sold, wholesale and retail, by the
Putnam Manufacturing Company,
NO. 13 PLATT STREET, NEW YORK,
—AND—
CLEVELAND, OHIO.
S. C. NORTHROP, Agent.

WHAT EVERYBODY KNOWS, VIZ:
That Iron well galvanized WILL NOT RUST;
That a *simple* machine is BETTER than a *complicated* one;
That a WRINGER SHOULD BE SELF-ADJUSTING, DURABLE, and EFFICIENT;
That *Thumb Screws* and *Fastenings* cause DELAY and TROUBLE to *regulate* and *keep in order*;
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That the PUTNAM WRINGER has *all* the advantages, and *not one* of the disadvantages above-named;
That all who have tested it, pronounce it the *best* Wringer ever yet made;
That it will wring a *Thread* or a *Bed Quilt* WITHOUT ALTERATION.

WASHING DAY
IN THE DARK AGES!

TO HOUSEKEEPERS EVERYWHERE

IF you don't want your clothes twisted and wrenched, and pulled to pieces by the above old-fashioned BACK-BREAKING, WRIST-STRAINING and CLOTHES-DESTROYING process of washing and wringing, go before next washing-day and buy one of the best LABOR-SAVING, CLOTHES-SAVING, HEALTH-SAVING, TIME-SAVING, and MONEY-SAVING inventions of the age,

THE
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—WITH—
COG WHEELS

53,818 SOLD IN 1863!

46,814 sold in the first five months of 1864

PRICES.

No.			Size of Rolls. Length.	Diameter.
1	Large Family Wringer,	$12	11¼ in.	2¼ in
1½.	Medium "	10	11¼ in.	1⅞ in.
2.	Medium Family "	8.50	9¾ in.	1⅞ in.
2½.	Small " "	7.50	10¼ in.	1⅝ in.
3.	Small " "	6.50	8¾ in.	1⅝ in.
8.	Large Hotel "	15	14 in.	2¼ in.
18.	Med. Laundry "	20	17½ in.	2¼ in.
22.	Large " "	30	17½ in.	3⅛ in.

Nos. 18 and 22 to run by Steam or Hand. Pullies, $4 per pair.

Nos. 2½ and 3 have Rolls so small that cogs can not be used. All others are

WARRANTED.

On receipt of the price, from places where no one is selling, we will send the U. C. W., FREE OF EXPENSE.

In reply to the question, "HOW LONG WILL IT LAST?" we can only say, "As long as a wash-tub, cooking-stove, or any other family utensil." See testimony of ORANGE JUDD.

"We think the machine much more than PAYS FOR ITSELF EVERY YEAR in the saving of garments! We consider it important that the Wringer be fitted with Cogs, otherwise a mass of garments may clog the rollers, and the rollers upon the crank-shaft slip and tear the clothes, or the rubber break loose from the shaft. Our own is one of the first made, and it is as GOOD AS NEW after nearly FOUR YEARS' CONSTANT USE."

They are for sale in nearly every town in the country. Wherever they are not already introduced we want a

GOOD CANVASSER.

The **EXCLUSIVE RIGHT OF SALE** will be guaranteed to the first responsible applicant for the territory. Liberal inducements offered and Descriptive Circulars furnished by

R. C. BROWNING, General Agent,
347 Broadway, New-York.

☞ *For full description and testimonials of the UNIVERSAL WRINGER, please refer to back numbers of the Agriculturist.*

Advertisements.

Advertisements, to be sure of insertion, must be received BEFORE the 10th of the preceding month.

N. B.—*No Advertisement of Patent Medicines or secret remedies desired. Parties unknown to the Editors personally or by reputation, are requested to furnish good references. We desire to be sure that advertisers will do what they promise to do. By living up to these requirements, we aim to make the advertising pages valuable not only to the readers, but to the advertisers themselves.*

TERMS—(cash before insertion)

One Dollar per line, (14 lines in an inch), for each insertion.
One half column (74 lines), $65 each insertion.
One whole column (148 lines), $120 each insertion.
Business Notices, One Dollar and a Quarter per line.

A PRACTICAL FRUIT GROWER would take a farm on shares. Address P. P., Box 4465, New-York.

FOR SALE.—Three pure bred Ayrshire bull calves. EGBERT COUCH,
Great Barrington, Mass.

FOR SALE.

Two full blood Cotswold Rams, one year old, weighing 165 and 180 lbs. SAMUEL WHITMAN,
West Hartford, Conn.

WHITE-FACED BLACK SPANISH HENS.—A few pairs, purely bred from imported stock,
FOR SALE BY
M. D. BALLOU, Northampton, Mass.

No Sewing Machine complete without D. Barnum's "Self-Sewer;" saves the eyes; no basting or bending, and guides the work itself. Only $1.50, with directions sent by letter. No. 508 Broadway, New-York.

Hudson River Institute.

Unsurpassed facilities in French, Piano Music, and higher English. Fifteen Superior Instructors who make teaching a profession. Young Ladies are exercised daily in Lewis' Gymnastics in the new Gymnasium.
REV. ALONZO FLACK, A. M., Claverack, N. Y.

Babbittonian Penmanship.

Beautiful, scientific, business-like and SELF-TEACHING; warranted the most complete of systems. Nearly 100 copies on card-board slips sent post-paid for $1. An elegant hand taught without schools or teachers. Splendid terms to agents. Address BABBITT & WILT, Principals Miami Commercial College, Dayton, Ohio.

To Clear the House of Flies,
USE DUTCHER'S CELEBRATED

LIGHTNING FLY-KILLER,

a neat, cheap article, easy to use. Every sheet will kill a quart. SOLD EVERYWHERE.

THE ILLUSTRATED PRENOLOGICAL JOURNAL for July,—Vol. 40 begins with a Double No., now ready, containing Portraits, Characters and Biographies of leading men living and dead, such as Hancock, Sedgwick, Wadsworth, Hawthorn, Murillo, President of Colombia, S. A., the Dying Gladiator, with Portraits, Characters and Biographies. Also, Ethnology, or the Races; Physiology, the Laws of Life and Health; Phrenology, with choice of pursuits; Physiognomy, or "Signs of Character"; Psychology, the Science of the Soul, and much other matter, to be found in no other publication. It is a handsome Illustrated monthly, with ninety-six columns of rich reading matter. Newsmen have it. Sold at 20 cents, or $2 a year, by S. R. WELLS, care of FOWLER & WELLS, No. 389 Broadway, N. Y.

S. B. CONOVER,
Commission Dealer,

260, 261 & 262 West Washington Market,
FOOT OF FULTON-ST.

Particular attention paid to selling all kinds of Fruit and other Farm Produce.
Refers to the Editor of the American Agriculturist.

TO FARMERS
AND OTHERS.

We are manufacturing a Genuine Article of VERY FINE **BONE DUST**, and **RAW BONE SUPERPHOSPHATE OF LIME**, manufactured from unburned Bones, containing all the Animal and Chemical Fertilizing Properties. Please address the Manufacturers, and get the Intrinsic Value of your money.

N. B. A Liberal Discount made to Dealers for Cash.
Address A. LISTER & BRO.,
Newark, N. J.

October First

OUR DOLLAR PACKAGES will contain twenty per cent less than advertised in July and August Agriculturist.
CLAREMONT MANUFACTURING CO.,

A SPLENDID STORY by SYLVANUS COBB, jr., in THE PRINTER'S DEVIL THIS WEEK at all Newsdealers. It is one of the best this popular author ever wrote. THE PRINTER'S DEVIL, a handsome illustrated literary and miscellaneous family paper, will be sent six months to any *new* subscriber for 25 cts. Address "PRINTER'S DEVIL," No. 113 Fulton-st., New-York

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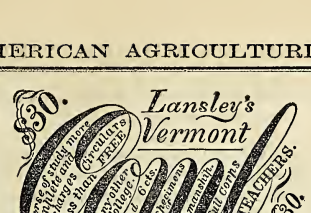

STUDENTS ENTER AT ANY TIME.

THE LARGE ILLUSTRATED CIRCULAR
Of the Bee-keeper's Text Book and the Nucleus-Swarming, Side Opening Movable Comb Bee-hive. Rights low, and Agent's Fees High. Address
H. A. KING, Nevada, O.

LANE'S PURCHASING AGENCY,
FOR PURCAHSING
Articles of Merchandise, Implements for the Farm, Garden and Household, SEEDS.
Address HARVEY B. LANE,
151 Nassau-st., New-York.

SMALL FRUITS.

Strawberries. - - - Currants.
Raspberries. - - - Gooseberries.
Blackberries. - - - Grapes, &c., &c.

Our stock of **Plants** and **Vines**, as to quantity and quality, are unsurpassed anywhere.

All our STRAWBERRY PLANTS are laid in, and carefully marked, during the whole growing season.

Our GRAPE VINES—of which we have 250,000—are grown in the open air, have remarkably good roots, and can not fail to give entire satisfaction to purchasers.

Send for Catalogue enclosing stamp. J. KNOX,
Box 155, Pittsburgh, Pa.

Fruit and Ornamental Trees.

ELLWANGER & BARRY, solicit the attention of Planters, Nurserymen, and Dealers in Trees, to the great stock of Standard and Dwarf Fruit Trees, Ornamental Trees, Shrubs and Plants of every description which they now offer for Fall Trade.

The stock is of the first quality in all respects.

A Wholesale Catalogue is just published, and will be sent post-free to applicants who enclose a stamp.

ELLWANGER & BARRY,
Mount Hope Nurseries,
Sept. 1st, 1864. Rochester, N. Y.

Stephen Hoyt & Sons,

Offer a large stock of thrifty and well grown
FRUIT TREES,
consisting of Standard and Dwarf Apples, Pears, Cherries, Plums and Peaches, as well as the smaller
FRUITS AND GRAPE VINES.

They also invite attention to their large and fine stock of Evergreens and Deciduous Ornamental Trees.

Also a fine and large stock of two year old Apple and Sugar Maple Seedlings. Catalogues sent to applicants.

STEPHEN HOYT & SONS.
August 13th, 1864. New Canaan, Conn.

New Strawberries.
Agriculturist,

THE PRIZE BERRY OF AMERICA.

A fine stock of this remarkable variety. Also all the new varieties worth cultivating. For particulars see July number of American Agriculturist. All orders addressed to WM. S. CARPENTER, 329 Greenwich-st., New-York.

THE TRUE CAPE COD CRANBERRY for October planting, for Upland and garden culture, and for swamps. Under my method of cultivation the yield last season on Upland was over 400 bushels per acre. Explicit directions for cultivation with prices of plants, with nursery catalogue complete, will be sent to any address.
P. M. WATSON, Old Colony Nurseries, Plymouth, Mass.

Choice Grape Vines.

I offer Adirondac Vines, 2 years old, Strong, $4 each.
" " " 2 " Extra, $5 "
" " " 1 " Strong, $2 "
" " " 1 " Extra, $3 "

Discount on bills of $25 to $50, 10 per cent.; on $50 to $250, 20 per cent.; on $250 and over, 30 per cent.

Iona Vines,	1 year,	No. 1,	$1.50 each ;	$15 per doz.;	$100 per 100
"	1 "	2,	$1.00 "	$10 "	$80 per 100
Israella "	1 "	1,	$1.50 "	$15 "	$100 per 100
" "	1 "	2,	$1.00 "	$10 "	$80 per 100
Creveling "	2 yrs.,	very strong,	75c. each ;	$7.50 per doz.;	$50 per 100
"	"1 "	"	65c. each ;	$6.50 per doz.;	$40 per 100
"	"1 "	"	50c. each ;	$4.50 per doz.;	$30 per 100
Delaware "	1 "	No. 1,	$4.00 per dozen ;		$25 per 100
" "	1 "	2,	$3.00 per dozen ;		$15 per 100
" "	1 "	2,	$2.50 per dozen ;		$12 per 100
Concord "	2	"strong layers,	$3.00 per dozen ;		$15 per 100
" "	1 "	No. 1,	$2.50 per dozen ;		$12 per 100
" "	1 "	2,	$2.00 per dozen ;		$10 per 100

Hartford Prolific, Clinton, Allen's Hybrid, Ichecca, Diana, and others, at LOW RATES. The above vines are all grown in OPEN AIR, and I warrant them TRUE TO NAME. Orders must be accompanied by cash. J. W. CONES,
Norfolk, Conn.

70,000 Concord Grape Vines.

No. 1. One year old, $10 per 100; or $90 per 1,000.
No. 2. $8 per 100; or $70 per 1,000; 10,000 extra fine, transplanted, 2 years old.

Concord Grape Vines.

$20 per 100; or $180 per 1,000.

Delaware Grape Vines.

No. 1. One year old; $25 per 100.
No. 2. One year old; $15 per 100.

Union Village Grape Vines.

One year old; 50 cts. each.
Strong Layers; $1.50 each.

Rodgers' Hybrids.

Nos. 4, 15, 19, we have fruited the past three years, and they have done finely.
We have also Nos. 1, 3, 9, 33, 22, 43. Price $9 per dozen; or $50 per 100. GEORGE SEYMOUR & CO.,
South Norwalk, Conn.

Adirondac Grape Vines.

1 year old, No. 1, very strong, $3; No. 2, strong, $2
2 " " " $3; No. 2, " $1

All cut back to 3 to 5 eyes. No inferior vines will be sent out by me. Purchasers can rely on the quality of my vines being unsurpassed. Will be forwarded in sealed boxes by express, without charge for boxes. Small orders will be securely packed and sent by mail, pre-paid, when so ordered.

The two great grape Exhibitions held last autumn in New-York and Cleveland, awarded to the Adirondac, the prize for the "BEST NATIVE GRAPE OF ANY KIND, QUALITY TO RULE." The discovery and introduction of the Adirondac grape is an event of the highest importance to grape growers, and the greatest advance yet attained in native grapes. Its peculiarities are, extreme earliness, large clusters and berries, tender and thin skin, melting without any perceptible pulp, and of the most delicate and delicious flavor, reminding one of that splended Hot-house grape the "Black Hamburg." Also first class vines of the following varieties, at the lowest rates, viz.: Allen's Hybrid, Creveling, Concord, Cuyahoga, Delaware, Diana, Hartford Prolific, Iona, Israella, Maxatawney, Northern Muscadine, Ontario, Rodgers' Hybrid, Nos. 1, 3, 15, 19, To Kalon, Sherman, Yeddo, Liberal discount to Nurserymen and Dealers. Price lists and trade circulars forwarded on application. JOHN W. BAILEY,
August, 1864. Plattsburgh, Clinton Co., N. Y.

Messrs. FLEMING & DAVIDSON, are my authorized agents for New York City.

GRAPE VINES.

My stock this season comprises all the valuable hardy varieties, and has been produced with the greatest care, to secure plants that will give uniformly the best results. The great superiority that my vines have exhibited throughout the country, warrants the confident belief that I can, as heretofore, furnish the best and cheapest vines that can be offered.

The introduction of the Delaware vine was an event of the utmost importance in American Agriculture, in giving us a most hardy and enduring vine, superior to all others, in habit and character, as well as in the surpassing quality of its fruit, which fitted it to become "the educator of American taste," to use the apt expression of Mr. Peter B. Mead. Until shown by the practical test of the Delaware, the great excellence attainable by the native grape was not known. From the extensive dissemination of this variety, the American taste has already become, to a considerable extent, educated, and ready to appreciate and accept those only that are capable of yielding the highest degree of refreshing enjoyment.

Allen's Hybrid fulfils this requirement for the garden, for which it possesses a very good degree of hardiness, an exception that belongs probably to the Israella, only the latter has not been quite so extensively tested, having been one season less in bearing, but with the same constancy and excellence of habit.

The ISRAELLA is of large size; bunches large and compact, very dark in color, ripening as early as the Hartford Prolific, tender to the center—of very remarkable and peculiar excellence, for full account of which see price list.

Price list, (or two, if requested,) with full account of these new kinds, sent on receipt of stamp. When requested, a proposition will also be sent for the formation of clubs by which all of the members can obtain the vines at wholesale prices. For notice of Catalogues and Manual of the Vine, see advertisement in Agriculturist, August 15.

C. W. GRANT,
Iona, near Peekskill, Westchester Co., N. Y.

True Delaware Grape Vines.

From the original vine. Also fine plants of Concord, Creveling, Iona, Israella, &c. Send stamp for priced list of 76 kinds, to GEO. W. CAMPBELL, Delaware, Ohio.

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Distribution of Strawberry Plants—When to Begin.

A terrible drouth is prevailing here; the ground has hardly been wet an inch deep in two months. Mr. Olm is doing all he can by watering, etc., to push forward the strawberry plants, but fears he cannot possibly begin the distribution of them before the last Monday in August at the earliest. Probably the first 5000 of last year's applicants will get their plants about September 1st, and the rest *as fast as possible*, immediately after, in the order the applications are on the books. See page 242 for some directions on treating the plants. Of course each one will take all possible care to have the plants well set and cared for as soon as he receives them.

The Agriculturist Strawberry on Sale—Explanation.

It will be seen that plants of this strawberry are advertised for sale, in this month's paper and elsewhere. It was the wish and original intention of the Proprietor, that no plants should be sold, but that they should belong exclusively, at first, to the "*Agriculturist* family." Some plants, however, were sold by Mr. Boyden before Mr. Judd attempted to secure them. All of these he bought up, except one single plant, which could not be had at any price, but the owner, Mr. Carpenter, generously promised to withhold it from the public until our distribution commenced. This one plant has been carefully cultivated and multiplied during the year, and its product, and *this only*, is now offered. If others offer plants of the same variety the present summer, they must be obtained from one of these sources or be spurious ones.

Mr. Judd's plants were placed under the care of his skillful gardener, Mr. Olm, who has earnestly watched over them almost night and day for a twelvemonth.

As a stimulus to continued extra exertion, on the part of Mr. Olm, and as the plants are to go into market, and also because many are begging the privilege of getting more plants than they are entitled to by subscription, we have written to Mr. Judd, and obtained his consent to the following plan:

Mr. Olm is to push forward the work, and at the earliest moment supply a good, strong plant to every actual old or new *subscriber* for this year, who has applied or may apply for them on the previous terms, (viz., the year's subscription, and 5 cents extra for postage on the plants.) This will *first* be carefully attended to. After this is done, the plants remaining will be sold to those first applying for them, at the following rates:

For one good, strong plant,	75 cents.
For two " " "	$1 20
For six " " "	3 00
For twelve " " "	5 00
For one hundred " " "	25 00

Sent post-paid when so desired.

An interest in the sale will be given to Mr. Olm, who will thus be rewarded for his past exertions, and stimulated to the utmost care and effort to get all subscribers well supplied at an early date.

The severe hail storm in June, the hardest ever known here within our memory, badly injured the fruit, and cut the plants somewhat, yet they are very vigorous, and not one was lost during the winter, though part of them were entirely unprotected. There is now every prospect that there will be enough to supply all our subscribers by the middle or before the close of September. We shall be gratified at this. Anything realized from sales will go towards helping out the great expense incurred in the purchase, care, and distribution, and in meeting the great advance in cost of printing paper, etc.

☞Orders accompanied by money will be filled on the above terms in rotation. It will doubtless be practicable to meet every person's requisition in time to get them well started this year. Of the great value of this new variety something was said in the July No., page 196.

No more Club-rate Subscriptions at Present.

Owing to the enormous advance in all materials, we must suspend Club-rate Subscriptions, for the time being.——Until further notice new subscriptions or renewals will be received at the regular full price of $1 a year.—Probably the price will have to be advanced soon. Where less than $1 is sent, a proportionate part of a year will be credited.

Special to Advertisers.

The terms of advertising are necessarily advanced a little, (See pages 249 and 250). A much less space must be devoted to business hereafter, which will make those advertisements inserted all the more valuable. The terms are still very low; *Thus:* more copies of the *Agriculturist* are sent to actual subscribers, than of all other similar journals in this country; yet to insert five lines in the *Agriculturist* cost $5 (and less by the column), while the same space in the rest of the agricultural press costs from $15 to $20.——*Note also*, that only reliable advertisements from reliable parties, are inserted in this journal, and its readers know this fact, and value and patronize the advertisers.——NOTE ALSO: This paper is always kept a month, frequently for years, and thus the advertisements are before the readers a long time:—N. B.—1. "First come, first served," is the rule; and —2nd, when the space is full, the gate is shut.

Agricultural Exhibitions.

Our readers will confer a favor by sending to this office notices of the times and places of holding the various State and County Agricultural Exhibitions this year, and if possible giving the name of the secretary of the society, or the active business man, who should be addressed for information about the society or the fair. We desire for the general benefit, to make the list complete.

Books of all Kinds—Notice.

The great fluctuations in the value of legal tender currency, and in the price of book stock of all kinds, render it necessary for publishers to make frequent changes in the price of books. The list prices for one month is therefore *no guide* for subsequent months, and it will save both us and book purchasers much annoyance if they will consult the list of the month in which they send orders.

Back Volumes & Numbers Supplied.

We have complete sets of Vols. 16, 17, 18, 19, 20, 21, 22, both unbound, and bound in neat covers with gilt lettered backs. Prices at the office: *bound* $1.50, *unbound* $1.00 each. Back Volumes are sent prepaid by mail, (*they can not go unpaid,*) *if bound*, $2.00 each; *if unbound*; $1.24 each. Single numbers of any of the above Volumes, 10 cents each.

Binding.—Sets sent to the office will be bound up neatly (in our regular style of binding) for 50 cents a volume.

PREPARED COVERS.—Covers for binding, neatly made, with title, etc., gilt upon the back, ready for the insertion of the sheets by any bookbinder, can be furnished for Vols. 16, to 22 inclusive, at 35 cents per cover. *Covers can not go by mail.*

American Agriculturist.

For the Farm, Garden, and Household.

A THOROUGH-GOING, RELIABLE, and PRACTICAL Journal, devoted to the different departments of SOIL CULTURE—such as growing FIELD CROPS; ORCHARD and GARDEN FRUITS; GARDEN VEGETABLES and FLOWERS; TREES, PLANTS, and FLOWERS for the LAWN or YARD; care of DOMESTIC ANIMALS, etc., and to HOUSEHOLD LABORS, with an interesting, instructive department for CHILDREN and YOUTH.

The Editors are all PRACTICAL WORKING MEN.

The teachings of the AGRICULTURIST *are confined to no State or Territory, but are adapted to all sections of the country—it is for the whole* AMERICAN CONTINENT.

TERMS——INVARIABLY IN ADVANCE,

For either the English or German Edition...$1 00 a year.

☞Add to the above rates: Postage to Canada, 12 cents; to England and France, 24 cents; to Germany, 36 cents. Postage anywhere in the United States and Territories must be paid by the subscriber, and is *only three cents a quarter*, if paid in advance at the office where it is received. Address all communications to the Editor and Proprietor,

ORANGE JUDD, 41 Park-Row, New-York City.

AMERICAN AGRICULTURIST,

FOR THE

Farm, Garden, and Household.

"AGRICULTURE IS THE MOST HEALTHFUL, MOST USEFUL, AND MOST NOBLE EMPLOYMENT OF MAN."—WASHINGTON.

ORANGE JUDD, A.M., PUBLISHER AND PROPRIETOR. Office, 41 Park Row, (Times Buildings.)

ESTABLISHED IN 1842.
Circulation ranges from 90,000 to 100,000.

$1.00 PER ANNUM, IN ADVANCE
SINGLE NUMBER, 10 CENTS.
For Contents, Terms, etc., see page 280.

VOLUME XXIII—No. 9. NEW-YORK, SEPTEMBER, 1864. NEW SERIES—No. 212.

Entered according to act of Congress in the year 1863, by ORANGE JUDD, in the Clerk's Office of the District Court of the United States for the Southern District of New-York.

☞ Other Journals are invited to copy desirable articles freely, *if* each article be credited to *American Agriculturist.*

Notes and Suggestions for the Month.

September, standing betwixt the summer and the autumn, unites in itself the characters of the two seasons. Dry and sweltering heats of the first week or two, give place to storms and blustering winds, often accompanied by frost. It is a month of care and anxiety to the farmer; success or failure are so evenly balanced that his good judgment and activity are often sorely tested to secure the harvests upon which his labor has been expended, and at the same time to make the ground ready for next year's crops. A Northern September epitomizes the year—seed time and harvest, summer and winter, often crowded into 30 days. Day and night are evenly balanced in the course of this month, so, with a pardonable fertility of imagination the Ancients saw a pair of weighing scales among the stars, and called the constellation and sign of the zodiac in which the sun measures equal hours of darkness and light, *Libra.*

Work for the Farm, Barn, and Stock Yard.

Agricultural Gatherings. It is the bounden duty of every farmer to go himself and give his family and hired hands a holiday at Fair time, if possible, and encourage an intelligent interest in every thing that bears upon improved farming, on the part of his children and employees.

Buildings. Look out for fire from pipes and cigars about the barns and yards. Fire is terrible at any season—the more if barns are full.

Beans. Pull when they turn yellow, make small heaps stacked about poles, raised from the ground by sticks or stones; green ones will ripen.

Buckwheat. Cut before frost at any rate, but best when it begins to ripen some of the seeds.

Butter. Put down well for winter and market, take great care, in order to realize high prices.

Cabbages. Give good cultivation, stirring the soil and allowing no weeds to trouble them.

Cattle. Keep them comfortable and well fed; buy beeves for fattening if the market favors. Give cows milk and butter-forming food, to make the most butter possible, for prices will be high.

Cheese. Take all pains to improve the quality. If possible visit some of the factories, or associated dairies. Cheese is wanted for export.

Cisterns often afford the best source of water for the stock in winter. If possible have them underground, and at a slight elevation above the stable floor. Cement cisterns, made by plastering directly on hard earth are excellent.

Corn. Cut up at the ground as soon as the grain shows a fair glaze. This saves the fodder green and sweet, if early husked and well dried.

Corn Fodder. Cut before the ears fill, when it is wilted, set it up against a fence or in small stooks; after a few days bind in small bundles; give a day's sunning occasionally, but always stook it or set it up at night so as to shed rain. It dries slowly. Save all you can, and well.

Draining. Be always ready for pushing forward this work, whenever the hands cannot be better employed. Do the work in the best manner, laying the tiles deep, securing the outlets against vermin, and providing silt wells where needed, to intercept mud, sand, etc.

Eggs. If eggs can not be marketed fresh and well, pack them for winter food, dipping the fresh eggs in melted tallow and packing them in dry chaff or sawdust, the ends up, and in boxes so that they may be inverted occasionally.

Grain. Thresh as fast as practicable and store in vermin proof granaries. Exercise good judgment in marketing. It is difficult to predict prices. Sell when a good price is offered.

Grass. Do not cut the aftermath where land has suffered from drouth. Bare spots may be manured, scarified with a harrow, and seeded down with very few oats. The oats will protect the grass, form a mulch for it, and die in the winter. The earlier grass land is manured in the fall, the better it works among the roots.

Irrigation. Notice carefully the levels of brooks and ponds, and have surveys made to know exactly how much land you can conduct water over; then plan to use the water as indicated last month; there is great profit in it.

Manure and *Muck.* Before the rains fill the swamps, make sure of a good stock of muck, for mixing with dung in winter. Gather diligently all poultry droppings, the deposits from house drains, scraps of woolen cloth, hair and leather, bones, factory wastes, and every thing that will decay to add value to the compost heap.

Pastures. Dress with bone dust and gypsum, sow mixed grass seed where needed, and keep the brush cut close. Try seeding down to mixed grass, with rye to be fed off next spring.

Plowing, at this season is either for fallowing and weed killing, or preparatory to sowing winter grain. The former should be deep, and is as well done later, if intended for spring crops.

Potatoes. Keep free from weeds; dig late if they are rotting at all, or else market at once.

Poultry may be allowed considerable liberty if they will not damage vineyards, tomatoes etc. They destroy many insects. Begin to feed regularly with some grain to fatten for market.

Roots. Keep the weeds out, and the soil loose.

Rye. Prepare ground. Get good seed—New Jersey White is excellent; sow last of month.

Seed Corn. Select the ears which best represent the variety, neither very large nor small, but perfect, well tipped out, with small cobs, without vacant streaks, with no strange kernels, well covered with husks, and wherever possible, such as are borne two or more on a stalk. Make the selection by feeling the ears before the corn is cut up if possible, marking them with a dash of paint or tar or other mark, so that in the husking they may be thrown aside for subsequent examination. Selecting seed PAYS.

Sheep. Wean lambs, giving them good pasturage, but not clover aftermath, putting the ewes on very dry feed, till the milk dries; then feed well. Milk once or twice if their bags are very full, and begin to feed well as soon as dry.

Sorghum. Cut before any frost, and it is best to work it up at once, though it will keep.

Stone Walls. That time of the year when crops are off the land, and when the ground is hard, should be embraced to haul stone off the fields and to lay, or better to *bury* stone walls. It takes a peculiar knack to make good work and do it quickly, and it will pay to give high wages and have the work well done. In more than half the cases where stone walls are put up it would be much better to bury them, forming ditches. Where a fence is *needed* there is none half so good as a well laid stone wall on land that is not heaved too much by frost.

Swine. Feed with regularity and so that they will eat everything clean. Give young or store pigs the range of the orchard. Keep hogs clean, and to fatten rapidly they should not be allowed to roam much or to squeal for their food.

Tobacco is ruined by a single severe frost. See article on page 237 (August). Air houses well.

Turnips require to be kept clear of weeds, and to be well thinned out where they are too thick.

Vermin. Expel rats with phosphorus paste.

Weeds. Burn all that have gone to seed, and add the rest to a compost heap, quickened with lime, horse dung, castor pomace or the like.

Wheat. Sow early. It is best to drill it in. A top-dressing of fine manure is desirable. Sow the timothy seed after the grain is up, if sown this month, or it may injure the young wheat.

Orchard and Nursery.

The principal business now is the agreeable one of gathering and marketing the fruit. Hand-pick as much as possible, using step-ladders and fruit-pickers. Make at least two qualities, putting the superior and inferior specimens in separate lots. The aggregate amount of returns from sales will show that this pays. Gather peaches and early pears before they soften. See article on treatment of pears on page 271. Mark everything distinctly, especially if the empty package is to be returned.

Budding. Peaches and other late growing stocks may still be budded, as explained in August.

Drying Fruit. The crop will generally be fair, but not large, and all properly dried fruit will bring a good price. The more rapid the drying, the whiter will be the product, and the better the price.

Hoeing. Keep the nursery rows free from weeds by use of the hoe and hand pulling.

Insects. Probe out borers with a wire, or piece of whalebone. Destroy cocoons and deposits of eggs.

Labels. See that all budded fruit is properly marked. Renew old labels when there is leisure.

Pits. Gather peach and plum pits from healthy trees, and bury them for planting next spring.

Plowing. Manure, plow and subsoil land intended for autumn planting.

Pruning. Finish up. Pinch back over-growth.

Seeds. Collect seeds of trees as fast as they ripen. Most varieties keep best in sand or sandy earth.

Seed-beds. Water if need be; keep out the weeds, and leave the soil with a loose, fine surface.

Kitchen Garden.

At the time this Calendar is written, the drouth still continues. The rains which have fallen have not been copious enough to penetrate the soil to the necessary depth. The advantages of draining have never been more manifest than in this dry summer. In a well drained, deeply worked garden, the soil is found to be moist, at an inch or so below the surface, while in those not thus prepared it is dry for a great depth. Loosening the soil must still be practised. Harvest all crops as soon as they are in perfection, and clear off the ground.

Beans. String beans may be prepared as for cooking and preserved in salt. See page 271.

Cabbages and Cauliflowers. Hoe frequently. Sow seed soon for plants to winter in frames.

Celery. When about 10 inches high, commence to earth up. Keep the earth out of the crowns, and do not break the leaf-stalks. Do it in dry weather.

Corn. Always save the earliest and best ears for seed. Clear off the stalks as soon as the ears are gathered. Dry green sweet corn for winter use.

Cucumbers. If small pickles are desired, go over the vines every morning and gather. Reserve the best and earliest for seed. Ripe ones make excellent sweet pickles, and they are good fried or otherwise cooked in the same manner as egg plants.

Endive. Tie up or cover with flower pots, when the plants are dry, to blanch. Hoe growing plants.

Kale. Sow Siberian or German-greens, the hardiest.

Lettuce. Hardy kinds may be sown with spinach.

Manure. Large additions may now be made to the compost heap. Throw there all the refuse vegetable matter, with the occasional load of manure.

Melons. Turn to ripen evenly. See August No.

Mushrooms. Make beds as directed, p. 145 (May).

Onions. Harvest when the tops fall over and cure for a few days in the sun before housing. Sow seed for plants to winter over.

Parsley. Sow for plants to keep through winter.

Radishes. Sow early sorts, and the Chinese Rose Colored Winter. See description in Basket item.

Seeds. Secure as fast as mature; label correctly.

Spinach. Sow in well prepared soil, in drills 15 inches apart. Thin when large enough, and weed.

Sweet Potatoes. The hot weather has suited them and the vines cover the ground. Move them, to prevent their taking root. Some of the largest may be taken out for use, leaving the others to grow.

Squashes. Clear off the vines of the summer sorts. Do not disturb the vines of the running kinds, but let them root at the joints.

Tomatoes. Gather and enjoy, and preserve and dry a plenty for future use. Kill infesting worms.

Turnips. Hoe, thin and weed. Seed sown in good soil will still give a yield in many places.

Weeds. Exterminate. If they have flowered, do not put them in the compost heap, but dry them, cock them up and burn them. A good stock of ashes may be accumulated in this way.

Fruit Garden.

Blackberries. After the fruit is gathered, cut out the old canes. Allow two, or at most three canes to grow for next season. These should have been stopped when about 6 feet high. Remove all other shoots, unless needed for new plantations.

Currants. Keep down the weeds and shorten in weak and overgrown shoots or remove them.

Grapes. See article elsewhere on the treatment of the vine. Hartford Prolific and other early sorts will now be ripening. The earlier the fruit can be marketed, the better the price. Shallow boxes, to hold 10 lbs. are best. See May *Agriculturist*, p. 146.

Pears. Gather carefully; ripen as directed p. 271.

Raspberries. Treat the same as blackberries.

Strawberries. Established beds where hill culture is practised, are to be kept free of runners and weeds. Those who get the "Agriculturist" or other new varieties should direct all their efforts to producing new plants. Read carefully the directions in *this* paper, and on page 242, last month.

Flower Garden and Lawn.

Bulbs. Set Hyacinths, Tulips and other spring-bloomers the last of this month or early in next. A sandy soil well enriched is best for them.

Bedding Plants. Such Fuchsias, Lantanas, Geraniums etc. as it is desired to preserve should be taken up and potted before cool nights check them.

Chrysanthemums should be coming forward rapidly. A few well-grown shoots are better than a crowded clump. Pot some for blooming in-doors.

Cuttings. Provide a stock of Verbenas, Petunias, and all such things, before the plants have lost their vigor. They may be struck in pots or in a sandy border if covered with a frame and partly shaded.

Dahlias. This is the great Dahlia month. Keep carefully tied up and look out for insects.

Lawns. Sprinkle seed on bare places. Eradicate all large weeds and mow occasionally.

Seeds. Use care in selecting from best flowers; label correctly. Hardy annuals may be sown now.

Walks. Keep clean of weeds, raked and rolled.

Green and Hot-Houses.

The general overhauling and repairing ought not to be delayed. White-washing, painting, and glazing are to be done. Repair all damaged wood work. See that furnaces, flues, water-pipes, tanks and cisterns, are all tight and able to go through the winter without mending. Cleanse the house thoroughly. Renew bark and sawdust beds. Procure pots Provide a good supply of potting earth, sand, moss, and every needed material. Do not wait for frost before bringing in the more tender plants. A cool night will give them a check, from which it will take long to recover. Have the house ready to receive plants this month, if necessary.

Annuals for winter blooming may be sown.

Bulbs. Re-pot Sparaxis, Cyclameas and others for winter blooming. Pot Hyacinths, etc.

Callas. Divide and repot. They are always valuable for greenhouse as well as parlor decoration.

Camellias. Repot. Give frequent waterings while they are growing. Grafting may be done.

Potting. Many things will need to be taken up from the borders to be kept dormant, or to bloom during the winter. Do it before cool nights come.

Propagating of Geraniums, Fuchsias, and other bedding plants should be continued vigorously.

Cold Grapery.

There is scarcely anything to add to the suggestions given last month. Except the very late sorts, the fruit is generally ripe. A dry atmosphere is to be maintained and the house kept open, except during rains. The new growth is to be kept in check as heretofore directed.

Apiary in September.

Prepared by M. Quinby—By Request.

Look out for the weak colonies at this season. It is necessary to repeat this caution, more than any other—people are either forgetful or heedless. No reader of the *Agriculturist* should complain of his bees being robbed now;—prevention is in his own hands. Ascertain at once, which the *weak* swarms are, and remove such as are not strong enough to defend themselves. As soon as the honey from buckwheat fails, there is the greatest danger. No strong colony will be plundered at first, or until all the weak ones are disposed of, and a habit of thieving is established. Avoid setting any refuse honey near the apiary. A queenless colony, very weak, and light in stores is not worth saving. But when heavy, and uninjured by the moth worm, it may be saved, but must be supplied with a queen and a colony of bees. The bees of two or three weak colonies may be taken if necessary to make a good one. When moved a mile or two, they will all remain in one hive much better than if put together from the same yard. If bees are taken from a diseased colony, they should be confined in an empty hive or box for at least 36 hours before being introduced among others. The indications of a queenless colony now, are the few bees in the hive. Examine further by smoking and inverting the hive, looking thoroughly among the combs for the sealed brood, which is readily seen, if present. When none is found at this season, it is strong evidence that there is no queen, and something must be done to save the stock. Light colonies that have constructed but little comb can not be made into winter stocks economically. Yet when plenty of honey is on hand to feed, so that they may make comb and rear brood, it may be possible to save them, but it must be attended to this month. Colonies that have bees and combs enough and lack stores, should not be fed till October. All condemned colonies, when strong enough to resist robbers, should stand until next month, or at least until the very last of this, for all the brood to mature and hatch, that the combs may be clean to cut out, or set away for another year.... Remove *all* surplus boxes as soon as honey fails.

"Bloat," in Ruminant Animals Cured by a Cold Water Bath.

Rev. Dr. Authon, Baron von Puechelstein, writes to the *American Agriculturist* the following interesting account of his discovery and practice of a simple and efficient remedy, as he avers, for the disorder which is often so fatal to sheep and cattle:

"An item in the July Number of the *American Agriculturist* leads me to communicate a very simple remedy, that has always proved efficient during an experience of 20 years, and which I discovered thus: I owned in Germany a large flock of sheep. One afternoon the shepherd rushed alarmed to the house and reported that he had let the sheep to feed *only a little* (as he said) on the newly mowed clover, and that all the sheep were so terribly bloated, that he could not move them. With all the help I could command on the estate, I hurried to the flock, all the known remedies, as the trocar operation, garlick, a solution of lime etc. could not

be resorted to, because there were too many sick and far from home. I ordered the servants back to the house, to bring up all the wagons, and intended to cart the sheep home, and there try to save the flock. They were near a bridge over a creek, and in loading the sheep on the wagons, it happened in the excitement, that some of them were pushed into the water. To my surprise I saw them swim ashore, belch out the air, and go on feeding, as if nothing had happened. I ordered a few thrown into the water, and when I saw them do the same thing, took courage and had the whole flock thrown in. The result was *the saving of all my sheep, without any loss whatever.*

A second case: At a neighbor's, where I happened to be a guest, a servant came rushing in, saying that all the cows had eaten of the green clover brought up (for soiling), and that they were much bloated. My advice was asked and I directed the cows to be put into the yard, which was only accomplished with difficulty, and I found 10 or 12 cows, of the best Swiss breed, in this same condition, drinking water after eating the clover. My water bath was at once resorted to. Everybody, including the lady guests, went to work with a will, pumping and carrying water. I emptied it, a bucket at the time, over the backs of the cows, put some garlick into their throats, and in about half an hour had the satisfaction of seeing all the animals relieved. This is a cheap remedy, that is available on every farm. It was published in several German agricultural papers, and I had the satisfaction of hearing, that whenever it was resorted to in time, it cured the affected animals."

Emigration to Delaware.

Editors of the American Agriculturist:

The emigration enterprise, inaugurated a year ago under the auspices of the Delaware Improvement Association, is still progressing. The northern colonies are thriving and call for the land is constantly increasing.

Among the incentives are cheap land, rapidly rising in value, and profitable productions. Cultivated farms can be bought for fifteen to thirty dollars per acre, within three miles from railroad depot, and eighty from Philadelphia. The sweet potato, melon, dwarf pear, grape, berries and other fine fruits and vegetables are very profitable. But the most profitable production is the peach, soil and climate being peculiarly favorable, and trees yielding a hundred dollars per acre annually for twenty years; so that it has become the principal peach section, and one of the cries of Philadelphia and New York now is, "Delaware peaches!" This year's crop, like the last, is good, and will stimulate cultivation, while the increase of peach canning will be a security against glut of market. We advise visitors to go now, in peach-time, both to taste the luscious fruit fresh from the tree and to see how large fortunes are easily accumulated by it.

But we wish settlers who are not attracted entirely or mainly by appetite or greed of gain. The enterprise is intended to be a Christian one. And there is being organized a Christian Emigration Union, which will facilitate the establishment of churches and public schools on free principles, as the great regenerating element of the world. The northern population already introduced into Delaware will greatly advance the best interests of the State, and the movement is highly appreciated by its best citizens. Visitors may get a reduction of fare from President Felton at Philadelphia depot, on the day previous to starting on the Delaware train at 8 A. M.; and they will receive courteous attentions by calling on Messrs. Osmond & Bryant, Canterbury, Del., and A. T. Johnson, Milford, Del., etc. Yours, L. C. Lockwood.

[Explanation. The plan of the association we understand to be this: Farmers are solicited to fix a price at which they will sell a given farm, or plot of land, within a certain time. This is fixed in writing. The association then shows to visitors a list of these, and he can visit, and select if he desires. No charge is made; the expenses of advertising, and time of agents, etc., are supplied by voluntary contributions from those interested in improving the State by introducing enterprising men. Of course, each member of the association is interested in showing up the superior advantages of his own locality. The enterprise seems to be a very good one.—Eds.]

Pennsylvania Agricultural College.—The trustees of this institution have elected Wm. A. Allen, formerly President of Girard College, to the presidency left vacant by the death of Dr. Evan Pugh.

U. S. 7-30 LOAN.

The Secretary of the Treasury gives notice that subscriptions will be received for Coupon Treasury Notes, payable three years from Aug. 15th, 1864, with semi-annual interest at the rate of seven and three-tenths per cent. per annum,—principal and interest both to be paid in lawful money.

These notes will be convertible at the option of the holder at maturity, into six per cent. gold bearing bonds, payable not less than five nor more than twenty years from their date, as the Government may elect. They will be issued in denominations of $50, $100, $500, $1,000 and $5,000, and all subscriptions must be for fifty dollars or some multiple of fifty dollars.

The notes will be transmitted to the owners free of transportation charges as soon after the receipt of the original Certificates of Deposit as they can be prepared.

As the notes draw interest from August 15, persons making deposits subsequent to that date must pay the interest accrued from date of note to date of deposit.

Parties depositing twenty five thousand dollars and upwards for these notes at any one time will be allowed a commission of one-quarter of one per cent., which will be paid by the Treasury Department upon the receipt of a bill for the amount, certified to by the officer with whom the deposit was made. No deductions for commissions must be made from the deposits.

SPECIAL ADVANTAGES OF THIS LOAN.

It is a National Savings Bank, offering a higher rate of interest than any other, and *the best security.* Any savings bank which pays its depositors in U. S. Notes considers that is paying in the best circulating medium of the country, and it *cannot* pay in anything better, for its own assets are either in government securities or in notes or bonds payable in government paper.

It is equally convenient as a temporary or permanent investment. The notes can always be sold for within a fraction of their face and accumulated interest, and are the best security with banks as collaterals for discounts.

Convertible into a Six per cent. 5-20 Gold Bond.

In addition to the very liberal interest on the notes for three years, this privilege of conversion is now worth about three per cent. per annum, for the current rate for 5-20 Bonds is not less than *nine per cent. premium*, and before the war the premium on six per cent. U. S. stocks was over twenty per cent. It will be seen that the actual profit on this loan, at the present market rate, is not less than ten per cent. per annum.

Its Exemption from State and Municipal Taxation.

But aside from all the advantages we have enumerated, a special Act of Congress *exempts all bonds and Treasury notes from local taxation.* On the average, this exemption is worth about two per cent. per annum, according to the rate of taxation in various parts of the country.

It is believed that no securities offer so great inducements to lenders as those issued by the government. In all other forms of indebtedness, the faith or ability of private parties, or stock companies, or separate communities, only, is pledged for payment, while the whole property of the country is held to secure the discharge of all the obligations of the United States.

While the government offers the most liberal terms for its loans, it believes that the very strongest appeal will be to the loyalty and patriotism of the people.

Duplicate certificates will be issued for all deposits. The party depositing must endorse upon the *original* certificate the denomination of notes required, and whether they are to be issued in blank or payable to order. When so endorsed it must be left with the officer receiving the deposit, to be forwarded to the Treasury Department.

Subscriptions will be received by the Treasurer of the United States, at Washington, the several Assistant Treasurers and designated Depositaries, and by all National Banks which are depositaries of public money, and

ALL RESPECTABLE BANKS AND BANKERS

throughout the country will give further information and

AFFORD EVERY FACILITY TO SUBSCRIBERS.

Agricultural Exhibitions in 1864.

State Fairs, etc.

In September: New England; J. A. Bagg, Cor. Sec. at Springfield, Sept. 6—9; American Pomological Soc., Rochester, 13. Ohio, John H. Klippart, Sec., Columbus, 13—16; Wool Growers' Convention, Rochester, 21; New York, B. P. Johnson, Sec. Rochester, 20—23; Wisconsin, Janesville, 26—30; Upper Canada, John A. Bruce, Sec., Hamilton, 26—30; Pennsylvania, A. Brower Longaker, Sec., Easton, 27—30; Indiana, Indianapolis, 3—8; Kentucky, Louisville, 6—10. Illinois, Decatur, 12—16; National Horse Show, Detroit, 13—14; Vermont, W. River Junc., 15—16; Mich., Kalamazoo, 20—23; Iowa, Burlington, 27—30; N. Brunswick, Fredericton, Oct. 4—7.

County Fairs.

Vermont. September. Franklin County, W. S. Rublee, Sec., East Berkshire, 21—22; Chittenden Co., Burlington, 27—28; Addison Co., Middlebury, 28—29; Connecticut Valley, Bradford, Oct. 4—6.

Massachusetts. September. Highland, Middlefield, 15; Hoosic Valley, North Adams, 20; Middlesex County, South, 20; Bristol Co. Central, Myricsville, 21—23; Middlesex, Concord, 22; Worcester Co., Worcester, 22; Worcester North, Fitchburg, 27; Worcester Co., So. East, Milford, 27; Nantucket Co., Nantucket, 27; Essex Co., Charles T. Preston, Sec., 27—28; Housatonic, Great Barrington, 28; Franklin Co., Greenfield, 29; Middlesex Co. North, Lowell, 29; Norfolk Co., Dedham, 29; Worcester Co. West, Barre, 29; October. Bristol Co., Taunton, 4; Berkshire Co., Pittsfield, 4; Hampden Co., Springfield, 4; Barnstable Co., Barnstable, 4—5; Hampshire, Franklin and Hampden Cos., Northampton, 6; Worcester Co. South, Sturbridge, 6; Plymouth Co., Lafayette Keith, Sec., Bridgewater, 6—7; Hampden Co. East, Palmer, 11; Hampshire Co., Amherst, 13; Martha's Vineyard, West Tisbury, 18.

Connecticut. September. Connecticut Horse Show, Hartford, 13—15; New London Co., H. L. Read, Sec., New London, 20—23; Fairfield Co., Norwalk, 27—30; Housatonic, New Milford, 27—28; October, Greenwoods, Winsted, 5—6; Middlesex, Middletown, 5—6.

New York. September. Broome Co., Binghamton, 13—15; Orleans Co., Albion, 14—15; Putnam Co., G. Mortimer Belden, Sec., Carmel, 14—16; Jefferson Co., Watertown, 15—16; Ulster Co., Kingston, 21—23, Cattaraugus Co., Little Valley, 27—29; Franklin Co., Malone, 27—29; Oswego Falls, Oswego, 27—29; St. Lawrence Co., Canton, 27—29; Susquehanna Valley, Unadilla, 27—28; Trenton Union, Trenton Falls, 27—29; Ontario Co., Canandaigua, 28—29; Newburgh Horticultural, Newburgh, 28—30; Delhi Farmers and Mechanics, Norwood Boun, Sec., Delhi, 29—30; Greene Co., Cairo, 29—30; October. Chautauqua Co., Fredonia, 4—6; Lewis Co., Turin, 4—6; Otsego Co., Cooperstown, 5—6; Queens Co., Jamaica, 5—6.

New Jersey. October. Burlington, Mount Holly, 4—5; Warren County, Belvidere, 4—7.

Pennsylvania. September. Susquehanna Co., Montrose, 21—22; Beaver Co., Beaver, 21—23; Bucks Co., Newtown, 27—28; October, Luzerne Co., Wyoming, 5—7; Crawford Co., E. L. Litchfield, Sec., Conneautville, 5—7.

Ohio. September. Greene Co., Xenia, 7—9; Geauga Co., Burton, 20—22; Columbiana Co., New Lisbon, 21—23; Trumbull Co., Warren, 21—23; Fulton Co., Ottokee, 21—23; Portage Co., Ravenna, 21—23; Cuyahoga Co., Cleveland, 27—30; Huron Co., Norwalk, 28—30; Stark Co., Canton, 28—30; October. Medina Co., Medina, 3—5; Butler Co., Hamilton, 4—7; Lorain Co., Elyria, 4—7; Mahoning Co., Youngstown, 4—7; Morrow Co., Mt. Gilead, 5—7; Union Co., Marysville, 5—7; Muskingum Co., Zanesville, 6—9; Fayette Co., Washington, 7—9; Richland Co., Mansfield, 7—9.

Indiana. September. Fayette Co., Connersville, 6—9; October, Laporte Co., Laporte, 12—14.

Illinois. September. Marion Co., Salem, 5—7; Morgan County, Jacksonville, 6—9; St. Clair Co., Belleville, 6—9; Kane Co., Geneva, 7—9; Kankakee Co., Kankakee, 7—9; Bureau Co., Princeton. 13—15; Hancock Co., Carthage, 20—23; DuPage Co., Wheaton, 26—28; McLean Co., Bloomington, 26—30; Pike Co., Pittsfield, 27—29; Warren Co., Monmouth, 27—29; Fulton Co., Lewiston, 27—29; Whiteside Co., Sterling, 27—30; Montgomery Co., Wm. R. Jackson, Sec., Hillsborough, 27—30; Carroll Co., Mt. Carroll, 28—30; DeKalb Co., De Kalb, 28—30, Schuyler Co., Rushville, 28—30 · Cumber-

land Co., Majority Point, 29—Oct. 1; OCTOBER. Stephenson Co., Freeport, 4—7; Washington Co., Nashville, 5—7; DeWitt Co., Clinton. 5—8; Vermillion, Catlin, 11—14; Morgan, Jacksonville, 12—14.

Michigan. OCTOBER. Kalamazoo Co., Frank Little, Sec., Kalamazoo 6—8.

Wisconsin. Columbiana Co., Portage, Sept. 21—23; Dodge Co., John C. Halliger, Sec., Juneau, Sept. 21—23; Vernon Co., Wm. S. Purdy, Sec., Oct. 4—6.

Iowa. SEPTEMBER. Clinton Co., George Burton, Sec., Lyons, 13—16; Floyd Co., Rockford, 14—15; Marion Co., P. F. Barth, Sec., Knoxville, 14—16; Scott Co., Davenport, 19—20; Chickasaw Co., B. E. Morton, Sec., New Hampton, 20—21.

Canada. SEPTEMBER. Shefford Co., Waterloo, 14; Missisquoi Co., Bedford, 15; Compton Co., Eaton Corner, 22; St. Johns Co., St. Johns, 22; M'tcalm, St. Esprit, 29th; OCTOBER, North Ontario, E. D., Prince Albert, 11.

Commercial Notes.

The following condensed, comprehensive tables, made up to Aug. 16, show the transactions the past month.

1. TRANSACTIONS AT THE NEW-YORK MARKETS.

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
24 days *this* m'th	396,500	2,309,000	1,318,000	11,500	31,000	757,000
25 days *last* m'th	344,000	2,127,500	773,400	36,000	37,000	876,000

SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*
24 days *this* month,	467,000	3,172,000	1,584,000	——	——
25 days *last* month,	549,000	3,978,000	1,546,000	10,300	81,000

2. *Comparison with same time last year.*

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
24 days 1864	396,500	2,309,000	1,318,000	11,500	31,000	757,000
26 days 1863	350,000	2,361,000	2,619,000	102,500	37,000	974,000

SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley*
21 days 1864	467,000	3,172,000	1,584,000	——	——
26 days 1863	303,000	2,584,000	2,197,000	81,000	——

3. *Exports from New-York Jan. 1. to Aug. 16.*

	Flour, bbls.	Wheat, bus.	Corn, bus.	Rye, bus.	Oats, bus.
1864	1,319,730	9,305,611	478,614	405	26,081
1863	1,551,075	9,581,116	9,581,916	377,351	106,375
1862	2,019,540	12,461,086	8,103,203	987,857	21,625

The fluctuations in prices of farm produce are so dependent upon the speculative value of Gold, that we can form no very reliable opinion as to the future. Favorable military results would depress gold, and down would go breadstuffs. The condensed but comprehensive tables herewith show at a glance the amount and character of the past month's transactions. The current prices at two dates are given as matter of reference; the telegraph may announce other rates before the paper can reach the reader by mail. The very high price of cotton helps up the price of wool very materially.

CURRENT WHOLESALE PRICES.

	July 16.	Aug. 15.
FLOUR—Super to Extra State	$9 00 @10 50	$9 10 @10 50
Super. to Extra Southern	10 25 @14 00	10 45 @14 50
Extra Western	9 00 @12 00	9 65 @13 00
Extra Genesee	10 50 @12 00	10 60 @12 50
Superfine Western	9 00 @ 9 50	9 10 @ 9 50
RYE FLOUR	8 50 @10 00	8 50 @11 50
CORN MEAL	7 75 @ 8 40	7 90 @ 8 50
WHEAT—All kinds of White	2 65 @ 2 75	2 95 @ 2 70
All kinds of Red	2 25 @ 2 52	2 15 @ 2 53
CORN—Yellow	1 63 @	1 51 @ 1 55
Mixed	1 57 @ 1 60	1 51 @ 1 52
OATS—Western	96 @ 98	98 @ 99
State	96 @ 97	97 @ 98
RYE	1 90 @ 1 95	1 95 @ 2 00
BARLEY	Nominal.	Nominal.
COTTON—Middlings, per lb	1 62 @ 1 64	1 72 @ 1 73
HOPS, crop of 1863, per lb	15 @ 30	18 @ 33
FEATHERS, Live Geese, p. lb	85 @ 90	Nominal.
SEED—Clover, per lb	17 @ 17½	Nominal.
Timothy, per bushel	3 50 @ 3 75	Nominal.
FLAX, per bushel	3 50 @ 3 75	Nominal.
SUGAR—Brown, per lb	20 @ 25	18½@ 21
MOLASSES, New-Orleans, p.gl.	1 10 @ 1 25	1 00 @ 1 20
COFFEE, Rio, per lb	52 @ 55	47 @ 50
TOBACCO—Kentucky,&c,p.lb.	14 @ 36	14 @ 36
Seed Leaf, per lb	25 @ 65	25 @ 65
WOOL—Domestic fleece, p. lb.	90 @ 1 12½	90 @ 1 15
Domestic, pulled, per lb	80 @ 1 07½	80 @ 1 10
California, unwashed	30 @ 65	30 @ 65
TALLOW, per lb	19 @ 20	19 @ 19¾
OIL CAKE, per tun	70 00 @75 00	70 00 @77 50
PORK—Mess, per bbl	35 00 @36 00	39 00 @39 50
Prime, per bbl	33 00 @34 00	31 00 @34 50
BEEF—Plain mess	20 00 @24 00	17 00 @21 00
LARD, in bbls., per lb	18 @ 19	21¼@ 22¾
BUTTER—Western, per lb	32 @ 41	38 @ 46
State, per lb	35 @ 44	40 @ 50
CHEESE	17 @ 23	18 @ 26
BEANS—per bushel	2 30 @ 2 80	Nominal.
PEAS—Canada, per Bushel	1 45 @ 1 50	1 90 @ 2 00
EGGS—Fresh, per dozen	24 @ 26	22 @ 25
POULTRY—Fowls, per lb	20 @ 21	18 @ 20
Turkeys, per lb	19 @ 20	20 @ 21
Woodcock, per pair		75 @ 1 00
POTATOES—Mercers, p. bbl	3 50 @ 4 00	5 50 @ 6 00
Peach Blow, per bbl	4 25 @ 4 75	5 00 @ 5 50
Dykemans, per bbl		5 00 @ 5 50
APPLES—Sweet per bbl		3 00 @ 4 00
Apples—Sour per bbl		3 50 @ 4 50
Apples—Common per bbl		1 00 @ 2 50
PEACHES—Delaware, per bskt		1 25 @ 1 50
Peaches—Jersey, per basket		1 25 @ 2 00

New York Live Stock Market.—BEEF CATTLE. The drouth has driven into market a large lot of miscellaneous stock, called beef cattle, the numbers averaging 4781 per week. Some of these have sold as low as 6 cts. per lb. for the estimated dressed weight, others at 19 cents. The latter price is now paid for first class bullocks, which are very scarce. Medium to good bring 14½c.@17½c., estimated dressed weight.

Milch Cows.—Average weekly receipts 147, with dull demand, owing partly to closing of distilleries. Poor light cows $20@$35 each; medium to good $40 @$65; extra milkers at various rates above these prices.

Calves.—Supply 2689 per week, prices 7 to 11 cents per pound live weight, according to the quality.

Sheep and Lambs.—Receipts averaged 15,948 per week; prices have fluctuated materially, closing better than last month. Good sheep 8¼ cents per lb. live weight, poorer 6¾ cents. Good lambs 10c.@10½; choice, 11½c.; and lots of over 2,000 at $4 25 per head.

Live Hogs arrive sparingly, and prices advance accordingly. Latest sales have ranged from 11½c@12c. per pound, live weight, according to quality.

Additional Contributions to the "Agriculturist Sanitary Fund."

Names.	*County.*	*State.*	
Amos A. Pope	Essex	Mass	1 00
Geo. Matson	Middlesex	Mass	1 00
E. M. Carpenter	Essex	Mass	50
W. H. Hill	Fairfield	Conn	2 00
Hugh Gelston	Fairfield	Conn	1 00
S. H. Chapman	Yales	N. Y	1 00
C. M. Howard	Franklin	N. Y	1 00
Luther Pierce	Chautauqua	N. Y	2 00
Albert Morehouse	Seneca	N. Y	1 00
Fred'k E. Parker	Westchester	N. Y	50
J. T. Howell	Morris	N. J	75
Mrs. R. Vighte	Somerset	N. J	5 00
Sophia Gauch	Essex	N. J	1 00
B. W. Young	Monmouth	N. J	1 00
A. M. Engle	Cumberland	Penn	1 00
T. J. Robinson	Washington	D. C	1 00
Ezra Brainard	Tuscarawas	Ohio	1 00
Caroline S. Fabrick	Cass	Mich	1 00
C. Shanahan	Cass	Mich	1 00
Frances M. Adams	Livingston	Mich	1 00
Mrs. A. E. Kennedy	Will	Ill	1 00
Mrs. E. Tiffany	Winnebago	Ill	50
J. A. Cheeseman	Sangamon	Ill	1 00
C. C. Hotchkiss	Grundy	Ill	1 00
Rufus Porter	Fulton	Ill	2 00
J. A. Mahard	Scott	Ind	1 00
J. T. Mendenhall	Hamilton	Ind	1 00
T. C. Johoson	Floyd	Ind	1 00
Mary E. Johnson	Floyd	Ind	1 00
Horace M. Johnson	Floyd	Ind	1 00
Eliza Johnson	Floyd	Ind	1 00
Frank H. Johnson	Floyd	Ind	1 00
J. S. Goodge	Randolph	Ind	1 00
A Discharged Soldier	Clinton	Iowa	5 00
Mrs. H. Felton	Clinton	Iowa	1 00
Wm. F. Hillman	Fon du Lac	Wis	1 00
J. M. Tarr	Monroe	Wis	1 00
H. G. D	Olmstead	Min	50
C. Neutzel	Siskiyou	Cal	1 00

THE FOLLOWING HAD NO POST OFFICE MARK.

Sarah A. R. Jeffcott	2 00	John Boos	4 00
Elisha Prentice	1 00	J. M. Prentice	1 00

For the U. S. CHRISTIAN COMMISSION.

J. Rogers	Sierra	Cal	10 00
Mrs. A. M. Dealy	Columbia	Cal	1 00
W. T. Waters and wife	Wilson	Tenn	5 00
E. Barber and wife	Wilson	Tenn	5 00
Chas. A. Raulett	Middlesex	Mass	3 30
I. W. Scott	Noble	Ohio	1 00
Sara E. D	Orange	N. Y	1 00
S. Hayes	New-York	N. Y	1 00

[Copy.]

$1000.00—Received, New-York, Aug. 16, 1864, of Orange Judd, Esq., One Thousand Dollars Cash, as an installment of the funds contributed to the **U. S. Sanitary Commission,** through the Office of the *American Agriculturist*, by subscribers to that Journal.

Signed GEORGE T. STRONG, 68 Wall-st.,
Treas. U. S. San. Commission.

Crop Prospects.

Notwithstanding the almost unprecedented dryness of the season (which cannot be measured altogether by the rainfall, but by the heat, dryness of the atmosphere and rain all taken together,) the prospects now are that the bountiful earth will yield nearly average returns for the labors of the husbandman. Not only so—for should we measure the harvests by the labor expended this year, we well might expect a small return. It may perhaps with truth be said that rarely, if ever before, has labor been so well rewarded—and this, without reference to the prices obtained for crops. Except in dairy products, and those roots (potatoes included) which occupy the ground during the heat of summer, we can designate none of the great staples of the country of which there is likely at present to be a short supply. There has been in certain more or less extensive districts considerable damage to the corn crop from which it will not recover, but taking the whole country together, the promise is good. "Potatoes they grow small and the weeds are very tall," but where the weeds were kept out and the soil was deep, the product will be very renumerative, as the prices are and will be high, though present rates may not continue. There is an immense breadth of late summer crops, buckwheat and turnips on the ground, in excellent order, so far as we are informed.

Containing a great variety of Items, including many good Hints and Suggestions which we give in small type and condensed form, for want of space elsewhere.

Printing Paper is Higher than Ever Before, and for some time past we have not been able to buy any stock in advance. The dryness of the streams, by stopping many of the mills, has added greatly to the scarcity and price. The present cost of manufacturing the *Agriculturist* is a *quarter* more than the price we have received for it. The advertisements help in part, and by dropping out 4 leaves and *condensing* more thoroughly, we are able to still give about the usual amount of information and at the same time keep expenses within receipts, without raising our subscription rates—a thing we are very loth to do and shall fight against. The "*Only a Dollar a Year*" has sounded pleasantly for 23 years, and does yet.

Please Aid Us.—As above noted, we are fighting hard to keep to old terms. *Will each reader help?* The more subscribers we have, the greater the number to divide the general fixed expenses among. As before explained, the heavy present cost of printing, stereotyping, engraving, editorial and other help, etc., etc., are no more for half a million subscribers than for half a thousand. So please let us have as many names as possible. Friends, we are giving you this paper at less than 40 cents a year in gold valuation. Please *each* give us a new subscriber this month. For $1.15 we will send the *Agriculturist* to new subscribers from October 1864 to December 1865, inclusive (15 months). This offer extends only for the present month, as we may be compelled to advance the terms. *New* subscribers this month sending 5 cents extra will be entitled to the strawberry plant.

Strawberries, Transplanted in almost any way, will *live*, if their crowns be not covered with earth; but if it is desired to have them grow and multiply most rapidly, some little care will pay. The best method of planting, one we have often recommended, is partly shown in this cut. Dig the hole, and with the hands make in its center a mound of earth reaching nearly to the surface. Spread the roots over this, as shown in the cut, and then fill in around, leaving the whole so that on settling, the crown of the plant shall remain about even with the surface of the surrounding soil.

Spread an inch or so of partly rotted strawy manure all around the plant, close up to it, and a foot or more each way. Water well through this manure and leave it on permanently as a mulch and nourisher. Shade from the direct rays of the sun for two or three days, by a newspaper held up with sticks, leafy branches, an inverted flower pot, or anything that will break the fiercest rays, but not shut out free access of air and warmth.

Notes on Grapes.—"T. H." We have the best evidence that the Creveling is a perfectly hardy variety and fruits well, north of New York City. The Maxatawney is a hardy vine, but thus far has not fruited well. It may improve with age. The Yeddo has not fruited yet, to our knowledge. It takes years to establish the reputation of any fruit. We give only what experience and observation show, and our opinion may be modified by future developements. The Taylor or Bullit is *not* a black grape, as plants direct from the original vine will show. Its great fault is, that only a small proportion of the grapes ever perfect......"A Subscriber." The best method of keeping grapes was given in the last volume of the *Agriculturist*, i. e. to put them in boxes and let them alone, unless there is danger of their freezing. We have seen no native grape which produces good raisins. The Delaware will dry to a raisin, but there will be more seeds than pulp: the skin of the Diana becomes perfect leather, and this variety will keep *as a grape* longer than any other, but it cannot be recommended for raisins. An experiment can be made by exposing grapes to the autumnal sun, but we have no confidence in the result....S. H. Sayer, Orange Co., N. Y. The distance apart to plant vines will depend upon the

manner of training, and will vary from four to eight feet. Seeds may be washed out as soon as the grapes are ripe, and mixed with sand and kept in a cool cellar, or buried in the open ground until spring, or the grapes may be allowed to dry and separate the seeds in spring. Sow in rich soil in drills as early as the soil can be worked, and shade young plants from the hot sun. It is in this way that new varieties are obtained. For details see Fuller's Grape Culturist ....." Diana in Despair," Amber, N. Y. The peculiar rot to which the Diana is subject is not well understood. In some localities it is impossible to ripen the fruit. It has been stated that the rot in the Catawba is due to freezing the roots, and that a heavy mulch over them during the winter will prevent it. It might be tried with the Diana ...C. M. East, Smithfield, Pa.: the enclosed leaf looks like the work of *Procris Americana*. Dusting with slaked lime while the dew is on, or if numerous, to cut the leaves off and burn them, are the proposed remedies, we can not say how successful.

Notes and Queries on Strawberries.—C. H. Wheeler, New London Co., Conn., wishes to know how to preserve strawberries for exhibition in autumn. Weak alcohol would perhaps do, or salt and water. It will be difficult to prevent shrinking....Mrs. D. Garrigues, Waterbury, Conn. There is no harm done by strawberries "mixing," unless you wish to sow the seeds. Of course the runners of different sorts should not get entangled, as this will lead to mistakes. Three or four feet between different sorts will give room enough, and if any runners are disposed to go beyond bounds, they can be turned in and made to root where they are wanted .. L. Church, Plymouth Co., Mass. It is not unusual in vigorous plants for runners to branch in the manner you describe.

Natural Inarching.—Thomas Morgan, of Stamford, Conn., forwards a drawing of a curious growth found on an old apple tree, which we have had engraved. A limb connects two of the larger branches of the tree, and the union is so complete, and the cross-piece so nearly of a size at both ends, as to render it difficult to say from which branch the piece originated. We have seen a number of cases of this natural inarching, but none so large and striking as the one figured. Limbs which cross one another, will, when moved by the wind, chafe so as to expose the inner bark of each. A still time following, gives the parts a chance to unite, and thus produce naturally what the gardener often finds it to his advantage to do artificially.

Apples for Wisconsin.—G. J. Kellogg, of Belle Cottage Nursery, Janesville, Wis., gives the following as his selection of varieties for that State: Red Astrachan, C. R. June, Keswick Codlin, Wm. Favorite, Dutchess of Oldenburg, St. Lawrence, Fall Queen, Fall Stripe Lowell, Snow, Talman Sweet, Yellow Bellflower, English Golden Rus, Barrett Rus, Putnam Rus, Willow Twig, Jonathan, Raule's Janet, Winter Wine Sap, Red Remanite and the Siberian crabs, *Hislop*, Golden Beauty and Large Red. These have passed our severe winters uninjured, while most other varieties have not stood the effects of the sun and frost of our changing February and March weather.

Preventing the Onion Grub.—C. H., Strafford Co., N. H., states that he finds that pine sawdust prevents the attack of the grub. He has succeeded with it for two years and has witnessed its good effects in the gardens of others. About a half bushel of pine sawdust to the square rod is strewn over the bed just before the plants come up. Sawdust which has been used for bedding in stables answers well. Mr. H. supposes that the resinous matter of the pine is disagreeable to the fly that produces the grub. It can hardly be that the sawdust acts merely as an obstruction to the operations of the fly, as the quantity used is too small for that. Sometime ago a secret grub-destroying process was sold. Sawdust was put upon the beds and it was then watered with diluted gas-liquor. It would appear from Mr. H.'s experiments that the efficacy lies in the sawdust. He also tried the same thing on radishes, and had them free from grubs, while before he was never able to raise them. Make a note to try this simple remedy. If it succeeds as well as it seems to have done with him, Mr. H. will have the gratitude of the gardening community.

Chinese Rose Colored Winter Radish.—There are several varieties of winter radish which keep like a turnip and have the genuine radish flavor. The general fault with these is the tough quality of the flesh. This Chinese variety is a great improvement upon the old white and black sorts, as it is crisp and tender, though a little firmer than early radishes. The color is brilliant rose, with lighter streaks, and its shape, which is shown in the figure, is odd and peculiarly Chinese. The leaf-stems are marked with rosé color. They are grown like other radishes and preserved for winter use in sand. The specimens average about 5 inches long, and two inches in their largest diameter. In favorable localities they may be sown the first of this month, though it is rather late, especially in far northern localities.

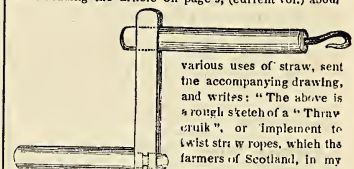
Worms on Gooseberry and Currant Bushes.—In the last *Agriculturist*, Mr. S. Edwards Todd's successful use of the powder of White Hellebore to repel currant worms was noticed. We now find in the London Florist and Pomologist that the same thing is applied in a different way. One ounce of powdered Hellebore and two ounces of powdered alum are stirred with a small quantity of water until the alum is dissolved and the powder of Hellebore thoroughly wetted and mixed. The whole is then put into a gallon of water and thrown upon the plants by means of a syringe or watering pot. It is said that this is superior to the use of the Hellebore in a dry state, and that the alum causes it to adhere to the leaves. Make a note to try this.

To clean Tomato and Cucumber Seeds, and others having a pulp attached. "G. R. B.," of Missouri, holds that every one benefitted by the *Agriculturist* should contribute his mite for the benefit of others, and sends the following: "Put the seeds, pulp and all, just as they come from the vegetable, into a bowl, cup or other earthen-ware dish, and set them in a cool place for a week or ten days, when a thick mould will appear on top and a thin watery substance beneath the mould. Then pour water into the vessel stir in the contents, and the mould and other impurities can be poured off, and the seeds will be found perfectly clean and free from pulp." Having tried this two years the writer *knows* it does not injure the germinating properties of the seeds, and is the easiest way to remove the pulp.

Insects to be Named.—J. E. Breed, Waupacca Co., Wise., and Sidney Squire of the same State, send *Micropus leucopterus*, the Chinch Bug, one of the most inveterate enemies of the cultivator. It attacks all kinds of small grain, and when that is out of the way it goes to the Indian corn. It flourishes best in hot and dry weather; a heavy shower will destroy them. There has been no practicable method proposed for killing them ..... J. Hays, Jr., Washington Co., Pa., under the name of "potato bugs," sends *Lytta Fabricii*, the size and shape of which are shown in the figure. This and two or three other species much like the one figured, are often very destructive, not only to potatoes, but to almost all garden vegetables. We have found them very fond of beets and spinach, which they actually covered. Shaking them off into a pan of water, and sweeping the plants with a muslin scoop net, are the only remedies we have seen proposed.

Plants for Names.—E. Breed, Waupacca Co., Mich., sends the Sweet Fern, *Comptonia asplenifolia*. It does not belong to the ferns, but probably received its popular name from the fact that its leaves resemble the divisions of the frond of some ferns. It is a small shrub, from one to two feet high, and grows in sandy places from Maine to Georgia. Its leaves have a very spicy odor and are used by boys to make imitation cigars, and by older people as a remedy for dysentery. It grows readily from seed and has been recommended as a nurse plant to shade young hickory trees.....G. B. Petteegill, Hancock Co., Me.: The seed is that of the Wild Balsam apple, *Echinocystis lobata*. It belongs to the same family as the gourd, cucumber, etc., is a native plant, which is sometimes grown as an ornamental climber, and occasionally is troublesome in low grounds. G. W. Hinchman, New York city, has left with us the Globe Thistle, *Echinops sphaerocephalus*, an old thistle-like ornamental plant, with a globular head of very fragrant lavender-colored flowers.....S. G. Noyes, Carver Co., Minn. The specimen is Dodder, *Cuscuta Gronovii*. It is a parasite which germinates in the ground and soon attaches itself to other plants, from which it draws its nourishment: the lower portion of the stem soon dies away. One species lives upon flax which it sometimes greatly damages. .. A. Fulton, Logan Co., O., sends *Asclepias tuberosa*, the Butterfly-weed or Pleurisy-root. It is not very rare and makes a very showy plant in the garden.....Mrs. Lee, Peoria Co., Ill. The plant in question is the Trailing Arbutus or May Flower. We never have seen it in cultivation though doubtless it might be, if its natural locations were imitated. It would probably require the care of an experienced gardener to raise it from seed ...R. S. Handy, Ridgeway (no State) sends *Viburnum lantanoides*, the Hobble-bush. It is closely related to the Cranberry Tree figured in July ...M. R. A. Elliot, Me: The plant is *Epilobium angustifolium* or Great Willow-herb. Very common in clearings. *Dicentra* belongs to the Fumitory family.... L. A. Ganneau, Isle Vert, Canada, sends what is apparently an undeveloped specimen of *Spiraea salicifolia*, or Meadow-sweet.

Straw Rope Twister.—A Scotch friend after reading the article on page 9, (current vol.) about various uses of straw, sent the accompanying drawing, and writes: "The above is a rough sketch of a "Thraw cruik", or implement to twist straw ropes, which the farmers of Scotland, in my younger days (some fifty years ago) used to *improve* at the fireside of a winter evening. Its great simplicity is the only advantage it has over the implement depicted in your January number. The proportions of the wood essential to symmetry I can not give to an eighth of an inch." This simple crank is certainly superior to the straight stick with a hook, in common use.



The White Daisy for Hay.—A "Two years Subscriber" writes to the *American Agriculturist*, though not advocating the use of such hay, that cattle will thrive as well on a less quantity of "white" daisy hay than of any other. It should be cut in full bloom. No doubt many a daisy patch is neglected and suffered to ripen its seed and scatter it, from which several hundred-weight of good fodder might be secured.

"Peruvian Wheat."—E. Kalb, writes from Fairfield Co., O., that H. B. Eyman, Justice for his township, handed him twenty-one heads of wheat the product of one seed, and adds: "I shelled the grains and counted fourteen hundred and twenty two (1422) solid grains. Can any one beat it? The Squire's veracity is unimpeachable. The wheat is called Peruvian."

Barley for Horses.—The idea that barley is injurious to horses, giving them tender feet, arises from prejudice. We hold barley in high esteem for horse feed, but oats are usually more economical, and seem to be peculiarly adapted to this use.—It is held by some that feeding corn or any grain but oats, gives more or less tendency to scratches, unless special care be taken, and the animals have a reasonable variety and have salt constantly before them. There may be foundation for this, as we know certain kinds of diet affect the secretions and certain cutaneous diseases.

Don't buy a Lawsuit, nor Will one to your Heirs.—"R. M. H.," of Rensselaer Co., N. Y., writes thus sensibly to the *American Agriculturist*. "Recent surveys sometimes overrun those made fifty years ago, and this induces farmers to take deeds depending upon old surveys when buying land, thus causing almost endless litigation and disputes about boundaries between neighbors. If the buyer believes a new survey will compel him to pay for more land, an agreement should be made to adopt the *area* of the old survey, but with new courses and distances, in conformity with the undisputed corners and lines. The variation of the needle in the Surveyor's compass is so great, and the carelessness of farmers in keeping their corners marked, so remarkable, that the surveyor has a very difficult and delicate duty to discharge when deciding boundaries according to old deeds and surveys. Buyers of land should not buy old disputes with it. Therefore have it surveyed, go over the lines with the surveyor and the seller, and when bought set substantial hewn *stone* mon

uments at all the corners. Purchasers of real estate will thereby avoid for themselves and those that come after them the unpleasant difficulties with neighbors, unfortunately so common among farmers in the older States."

Free Homes—Homestead Law.—Sundry inquiries are all answered plainly and clearly in the Homestead Law itself, which was published in full in the July *Agriculturist* 1862, (that is, Vol. 21, page 195). Copies of that number can be sent post-paid for 12 cents each.—One provision of the law has not been much talked of, viz., that the 80 or 160 acres of land thus given as a homestead, can not be taken to satisfy any debt contracted prior to entry upon it. Any person, male or female, native or foreign, if 21 years old, (or of younger age if he has been a soldier,) is invited to select a Homestead of 80 or 160 acres from any of Uncle Sam's surveyed lands not already occupied by some one else. The only cost is $10 for expenses of papers, etc. Five years' residence upon the land gives a man an absolute free title to it forever; or he can at any time after going upon it purchase it for $200, instead of occupying it five years.

Rescue Grass.—A. Berry, Cincinnati, O., writes that this was introduced by a gentleman in Georgia some 20 years ago, and that the seed sold at $20 per bushel. It was called Rescue because it was alleged that it would grow well on poor land and *rescue* it from its worn-out condition. It was also called Short-awn Horn Grass. Mr. B. says that as it germinates in September, it is of value at the South as affording pasturage during winter and spring. The grain, which is about one fourth the size of the oat, matures in June and will yield on good land 20 to 25 bushels to the acre. It shells out so easily, that it is best gathered by stripping, it as it stands in the field. This is a very different thing from the wild oat of California—that is a true oat (*Avena fatua*).

Salting Farm Stock.—G. W. Palmer, Susquehanna Co., Pa., writes: "I keep a small stock and give them salt as often as they get out. I have my yard shedded, or enclosed with a shed, and in a convenient place under that shed, I have made a stationary box and keep salt in it, so that whatever I pasture can go to it when they choose (summer and winter), and my experience is that it costs less, and my stock thrive better than when salted at regular intervals. One thing is certain, that any animal will not eat salt if it does not want it. After being salted daily for one week no animal will eat enough to do it harm; while if allowed to go to the box at first, there would be danger."

Tobacco ought to be cut as soon as the leaves are ripe as described in the August No., page 237. The crop should be harvested and hung up as there also described. This is September work over a good part of the tobacco raising part of the country. After the plants are hung in the sheds, or wherever they are, give good ventilation, closing the shutters in high winds. On damp, close days the shutters must be closed, for the tobacco will absorb moisture, and the object is to dry it as soon as possible. This is much expedited by fires, keeping up a gentle heat in the building. Frost is fatal to the standing crop; too close hanging in damp, warm weather causes incipient decay and mouldiness known as "pole burn", which is to be carefully avoided. Winds do most injury after some of the leaves are become dry and brittle.

A Cow's Milking herself is no crime, but *bad taste*, and a pernicious habit. A correspondent advises attaching a stick of suitable length, at one end to the girth, and at the other to the halter. This will allow the beast to move her head freely up and down but not round to either side—to the cow a very distressing way to effect the end, in fly time. The spike-muzzle figured herewith is much more humane. The muzzle-strap is stiff leather, large enough not to interfere with opening the mouth, and full of shingle nails. This is fastened to the head by a head-strap and throat-latch like a halter.

Curious Prejudices.—There are fewer popular superstitions and prejudices in this than in any other civilized country. Such things disappear before free schools and newspapers, so that they have become extinct throughout most of the Northern States, or only remembered as "old wives' fables." Two curious statements, which are thoroughly believed in, come to us from Maryland. One subscriber asks how it is that the Persimmon tree planted on sandy soil produces clay, "which is an established fact." If there be any foundation at all for this, it is probably to be found in the fact that the Persimmon delights in clayey soil, and is to be found on such spots where they occur in a sandy region. Another Marylander insists upon it that there is a certain hour and day wherein any tree which is cut, pierced, or hacked in the trunk, by any implement, will surely die at once,—that the knowledge of the day was held only by an old negro mathematician owned by Gen. Washington, and imparted by him to no one, lest great damage might be done through malice, which was very considerate of the old fellow. It is needless to say both of these are absurd notions which could hardly have found credence except where the ignorance of a large part of the community was established and maintained by law.

Roots in Drains.—There is upon our table a mass of roots which clogged a 4-inch pipe for carrying off the waste water from a water-ram. The pipe was of glazed ware and laid three feet below the surface. No trees are within 350 feet, and the only plant in the neighborhood likely to send its roots so deep is clover. The water usually one quarter filled the pipe. The proprietor cleared it of roots for a distance of 60 feet from the discharge end, by inserting a stout iron wire having teeth cut in it with a cold-chisel and bent in the form represented. When an obstruction was encountered, the wire was twisted round and round till it entangled the roots and was then withdrawn.

A Model Strawberry Report.—"W. G., Jr.," Dorchester, Mass., sends to Hovey's Magazine a report of his experience with several varieties of strawberries, which we copy as a model, as it condenses into a tabular form all that could be expressed in a page of the usual way of making such records. The table gives the result of one row, 60 feet long, of each sort named. It shows earliness, length of bearing, relative productiveness, and flavor all at a glance. In the column where the flavor is designated, 1 is placed for the highest, and the higher the numbers, the poorer the flavor:

Names of the varieties reported upon.	First Box gathered.	Last Box gathered.	Lasted in days.	Product in boxes, per row.	Flavor.
Princess Frederick Wm. -	June 19,	July 4,	16	7	11
Boston Pine, - - - -	" 23,	" 6,	14	11	4
Hovey's Seedling, - - -	" 23,	" 8,	16	14	6
Brighton Pine, - - - -	" 23,	" 8,	16	20	3
Marguerite. - - - -	" 23,	" 6,	14	30	10
Scott's Seedling, - -	" 24,	" 8,	15	21	9
Oscar, - - - - - -	" 25,	" 7,	13	9	1
Empress Eugenie, - -	" 27,	" 6,	10	6	5
La Constante, - - -	" 23,	" 13,	16	23	2
Triomphe de Gand, -	" 29,	" 13,	15	14½	8
Duc de Malakoff, - -	July 8,	" 8,	1	1½	7

In a column of remarks, which we have not room for, he notes: Princess Frederick William, very poor; Marguerite tasteless and soft; Scott's Seedling, small; Oscar, Empress Eugenie, and La Constante, largest size; Triomphe de Gand, medium; Duc de Malakoff, needs more than one year's trial.

Have some Good Strawberries!—A very little expense and trouble this month, will provide a bed of plants that will begin next summer to afford large, delicious, healthful fruit, close at your door, with no roving over fields, and trampling of meadows, for little stemmy fruit. There are plenty of good kinds for sale at low rates, which can be ordered of dealers near or distant, as they are easily and cheaply sent by mail. Get a full supply of them, with a few of the choicer, costlier kinds to be making plants from. Good strawberries can be raised by the bushel cheaper than wheat! Try it this month—this week. This and the last two numbers of the *American Agriculturist* give all needed directions. The advertising pages of this and previous numbers tell *where* to get plants.

Have You No Grape Vine?—A good vine costs a few cents or dimes, at most, and a trifle of labor to plant it and train it up the house, or on a stick or pole, or on a trellis that may be of the rudest kind if you have no time or money to make a better one. How beautiful is a grape vine, and how soon it will hang with noble clusters of delicious fruit, inviting you and yours to pluck, eat and enjoy. Get one vine—say a Concord, if your first one, started this very autumn. While about it, add a Delaware, a Hartford Prolific, perhaps a Creveling, but get one vine any way. Make a dry bed for it to stand in, and see it grow! A dozen good men offer vines in our business columns. Grape vines can go by mail, at very cheap postage.

Treading on Toes.—Mr. A. writes that his pet flower was spoken of disparagingly, and Mr. B. thinks there is a reflection upon his favorite strawberry. It would be "nice" to be able to please everybody. When a fruit or flower is brought to us, our notice is for the readers of the *Agriculturist* and not for the person who brings the specimen. If he receives any benefit from it he is welcome, but we are looking out for the interests of the half million who will read the article. If a new thing is good, it is a pleasure to aid in its distribution, and the proprietor of it gets benefitted as well as the purchaser. If a thing is bad, it is a duty to say so. One person is offended, but thousands are saved from unprofitable investments.—Notices cannot be bought.—A plant put before the public is like a new book, open to fair criticism. We try to judge fairly, and if an error is made we are open to conviction and will revise the verdict.

The Best Raspberry.—M. P. James, The Franconia is the best in the list named. We would not be confined to one kind however. Exceedingly favorable accounts come to us of the Philadelphia Raspberry, and we should be disposed to try that.

Works on Horticulture.—G. H. F. Woods, Macoupin Co., Ill., and others. One of the best general works on horticulture is Watson's Home Garden. It treats concisely on all branches. For special departments there are more extended works. Fuller's Grape Culturist is the standard work upon that subject. Downing's Fruits of America is full in description of varieties, and gives directions for culture. Bridgeman's Kitchen Garden Instructor has long been an authority, and though it is rather behind the times in its selection of varieties, its general directions are reliable.

American Pomological Society.—Fruit Growers are again reminded that the meeting commences on Sept. 13th, at Rochester. The meeting will be an important one, as the Society's catalogue of fruits will be revised. Two dollars makes one a member and entitles him to the volume of transactions. Send parcels of fruit to James Vick, Rochester, and admission fee to Thos. P. James, Treasurer, Philadelphia, Penn.

Montreal Horticultural Society.—There will be an Exhibition of Fruits, Flowers, Vegetables, Agricultural products, etc., at Montreal, on the 15th, 16th, and 17th of September, on the Victoria Skating Rink. This bids fair to equal any former exhibition in the Province, although the amount to be distributed is small compared with American Fairs. The Montreal Horticultural Society we notice has been in existence 19 years, and has held its Exhibitions regularly for that period. Cheap fares will be adopted on all lines leading to Montreal during the Exhibition. The officers are G. Desbaralts, Pres., S. I. Lymans, V. Pres., J. E. Gill, Sec.

Flowers for Children.—The R. I. Society for the Encouragement of Domestic Industry have distributed 2660 packages of flower seeds to the children in the public schools in 18 towns in the State. This is a good move, and the excellent example of "Little Rhody" should be followed by bigger States. Our many Rhode Island readers can help in this good work by saving seeds and sending them to Judge Staples, the Secretary of the Society, as it is desired to furnish all the schools in the State with seeds, another year.

Important Remedy for Diarrhœa, Bowel Complaint, etc.—A great deal is said about Blackberry wine, brandy, etc., for looseness of the bowels, and no doubt some of the spiced and other preparations of blackberries are useful as mild astringents. *But the chief medicinal virtue of the Blackberry plant exists not in the fruit, but in the* ROOT, and fortunately the root is to be found almost everywhere and at all seasons, and it is easily preserved dry. Dig, say half a pound of the small roots, with the bark only of the larger ones; wash clean; put in a tin, or glazed ware dish, with a quart of water. Steep and boil until there is a pint of fluid left. Strain this off into a bottle and it is ready for use. It will keep any length of time by adding a gill or so of alcohol, or of strong brandy or whiskey to prevent fermentation. A tablespoonful three times a day is a dose for a grown person. Even the "army diarrhœa", which is "chronic from its commencement", yields to this, with proper precautions as to food. This remedy is down in the medical works, but has been mainly overlooked by physicians, as one of the "old women's reme-

dies." We are led to speak strongly on this subject from the fact, that when the editor of the *Agriculturist* returned from his labors with the Sanitary Commission, his health continued to fail, and all the usual remedies and the skill of physicians seemed to avail nothing. Prof. Alonzo Clark, M. D., one of the most successful physicians in the city of New York, was sent for in consultation. He prescribed the simple decoction of Blackberry root, with a diet of beef tea and cream. The result in checking the disease was remarkable. Within the past few weeks we have known the Blackberry root prescribed in very numerous instances of bowel complaints, so prevalent during the drouth, and it has not failed in a single instance. We therefore head this item "important", and hope to call the attention of physicians and others more directly to the subject.—There has been a great call for "blackberries for soldiers." We suggest to send to each regimental surgeon a few pounds of the *root*, with the stem, to call his attention to the subject.

A Self-Painted Portrait.—If any one can be taken in by a letter similar to the following, which was received by one of our subscribers, perhaps he is silly beyond saving. It was preceded, of course, by Ticket "1649," or some other. We have little fear that our readers can be so duped, but will just pin this specimen of a humbug to the wall, for examination by the curious:

"Private and Confidential.

No. 86 Exchange St., Jan. 6th. 1864.

Mr. ——. Dear Sir:—Your ticket drew a prize of $200, but as you have not paid for a certificate you can only obtain it by writing me a letter dated on the day of drawing and enclose $10, the price of ticket. When received, I shall go to the Managers' office and open the letter in their presence, saying, This letter was mislaid in the post-office, but the date and money are correct. They do not know the No. of your ticket and will take the money and send you a certificate which secures you the prize.—I will aid you to do this if you will assist me to sell tickets by informing your neighbors you have received the prize money and whom to apply to for tickets. Write immediately. Yours truly, THOS. G. BROWNE."

There you are, Mr. Browne, in your proper colors, painted by yourself, as a swindling cheat. How do you like your portrait? The readers of the *American Agriculturist*, thousands of whom have received similar letters from you and others, know well enough that you would cheat *them* instead of the pretended lottery managers, should they forward you the $10.

An Astounding Publication. "The Philosophic and Scientific Ultimatum, Written in the Constitution and Laws of the Universe, by the omnipotent hand of Divine Intelligence, and spread before all mankind in the universal language of organic Mind and Matter, Cause and Effect, for the Guide of Nations and the promotion of Human Happiness," and so on for a page, "is the title of a work now in press." "Every dollar received for the work is strictly pledged to objects of charity and benevolence." Send your money, $2.50, to a certain Post Office box in New York, and—further this deponent saith not, only that probably the publisher of this tremendous tome must have exhausted himself in getting up a title, and we should fear the balance of the book would not be forthcoming.

To Make Hard-cider into Vinegar.—H. N Heff, Pa. Give air free access and summer temperature. Some old vinegar or "mother" accelerates it.

Vinegar from Peaches.—"C. B.," St. Joseph, Mich., says that good vinegar may be made from peaches, and advises peach growers to put their over ripe and waste fruit into barrels containing water. When the water is strongly impregnated with the juice of the fruit, it may be drawn off into other barrels to ferment.

Rifle Clubs.—The rifle is a strange thing to too many of our young men. When they went to the war, multitudes of the men had never pulled a trigger in their lives, and of course it took them some time to gain a confidence in themselves and in their weapons. Now that many having honorably served their time, are returning to peaceful pursuits, it is gratifying to know that rifle clubs are forming in various parts of the country. These should receive legislative encouragement, and wealthy citizens may well afford to offer cups, and sums of money, fine rifles and similar premiums for specific feats, or general excellence of marksmanship. There are three ways in which these clubs are organized, and all work well—the purely military, the purely civil (like a farmers' club or village Lyceum), and the mixed civil and military. As a guide in the selection and use of the rifle we think Cleveland's hints to Riflemen, will be found very good. It is in our book list.

Medicating Trees.—Some months ago we gave the statement of a contributor who claimed that he had successfully cleared trees of insects by the introduction of medicinal substances into their circulation. Since then, others have testified to the same thing. There is now upon our Exhibition Tables a dish of as fine plums as one could wish, and without a curculio sting upon them. Mr. S. Cooper, of Staten Island, who brought them, ascribes his success to the use of sulphur. A ¾ inch hole was bored into the trunk, filled with sulphur, and plugged up. Before doing this he could raise no plums; his neighbors fruit is all spoiled, while his trees are loaded. Here is a statement made in good faith, and we have had similar ones claiming that other insects besides the curculio have been repelled by the same treatment. But we are not prepared to believe that the sulphur had anything to do with saving the plums. It is a great pity that we have not some Horticultural Society, with experimental grounds where this and all similar questions could be definitely settled.

Two Crops of Leaves.—"W. A. F.," Raysville, Ind. When the more prominent buds are killed by frost, but the vitality of the tree is still uninjured, dormant buds, which would not otherwise have developed, will push and thus a covering of foliage be secured.

Root Grafting.—Will A. W. C., send a drawing and description of his instrument for the roots?

Planting Acorns.—"G. J. K.", Wauseka Co., Wis., gives the following as his method of planting acorns: "Mark your ground as for corn, except make the rows 8 ft. instead of 4, and take out one hoe full of earth for each hill. Go to the woods where hogs have not been permitted to run, scrape the leaves and ½ inch of the soil, either with shovel, spade, or hoe, and fill your wagon box. In planting, if acorns are plenty, you need but about 2 quarts of leaves to each hill, put on sufficient soil to keep them in place. Plant any time from the falling of the acorns to the first of May. It is but little work to gather the leaf mould, and if any is left it is the best mulch for grapes, strawberries, etc., you can use."

Oak-apples.—Mrs. "S. A. S.", Rockford, Wis. These are excrescences caused by the presence of a grub. An egg is deposited in a puncture made in the leaf and a diseased growth or tumor is found around the young grub, in which it lives, and upon the substance of which it feeds. The grub turns to chrysalis in autumn when the "apple" falls from the tree; it remains in that state until spring, when it comes out as a small fly, *Cynips confluens*, black and brown color, about ¼ inch long.

Gardening in California.—"J. B. B." Blair Co., Pa. Any plants that succeed with you will do well in California, and many others that we at the East cannot grow at all, flourish there. See article on strawberries in July No. Bee keeping is profitable there.

The Garden Flea.—Mr. B. F. Miller, Jackson Co., Oregon, finds that dry corn meal sprinkled around the plants will save them from the attack of this insect. It is renewed after a rain or heavy dew. We have had the same recommended for the striped bug.

Mildew.—E. Jeffries. This is a microscopic plant which lives on the leaves of grapes, etc. Sulphur is the best remedy yet found. Doubtful if anything will help the Catawba when it rots. Get a hardier sort.

Grapes for Iowa.—J. Zingg, Henry Co., Iowa. The Delaware is a hardy grape, and so are Concord and Clinton.—All nurserymen now have them.

Exhibition of Grapes and Wines.—An association at Cleveland, (Ohio, we suppose, but there is no State mentioned on the Circular,) offer liberal premiums, open to all, to be awarded at an exhibition to be held in that city from Sept. 17th to 30th. The prize list is signed by F. R. Elliott, Sec'y.

Linnæus Rhubarb.—"T. P. R." Lockhaven, Penn. We know of no book upon the culture of this, and making "wine" from it. It is cultivated just like any other variety. The ground can hardly be too rich as it is a great feeder. All nurserymen have it, as it is one of the best if not the very best for pies, etc.

Dessicated Potatoes.—D. Williamson, Putnam Co., Ill. These are made in large manufactories by cooking the potatoes, peeling them, and then rubbing them through a coarse grater, which leaves them in large grains. The material is spread on cloth stretched on frames, and placed in a room heated by steam-pipes, to dry. With a little ingenuity this process might be imitated in the family, grating or chopping the potatoes, and then drying them on pans in a moderately heated oven.

Drying Sweet Corn.—"Young Housekeeper". The ears should be no riper than if for the table. Cook enough to harden the milk in the grain, slice from the ear by means of a sharp knife and dry in the sun or near the stove. Some prefer to cut the corn from the cob while raw, then set the pan containing it in a kettle of boiling water until it is scalded. Then spread on pans and dry in the stove oven, leaving the door open to avoid too much heat. In either way it will be a little more "tough" than fresh corn. When dried corn is used, it should be soaked in water over night in a warm place.

Loss of Wheat Seed.—B. S. Schenck, Chambersburg, Pa., writes that he had received many orders, some of them prepaid, for Boughton White Wheat seed, all of which were destroyed by the burning of his house during the late rebel raid at that place. He wishes through the *Agriculturist* to inform parties interested that he hopes to meet all engagements if he can learn their address, amount of orders, etc.

Cauliflower Seed.—C. Molla, Joliet, Ill. Plants are sown in autumn, and wintered in frames, and those which form the best heads in spring are allowed to go to seed. Most seed sold in this country is imported.

Mailing Bulbs.—"W. T. G.", Equality, Ill. Take up when the leaves begin to wither, dry and pack in dry moss, *tie* the parcel, mark it "plants by mail," and pay postage at the rate of 2 cents for 4 ounces.

Inquiries for Ducks.—The notice of Rouen Ducks which appeared in the last No. of the *Agriculturist*, leads to considerable inquiry as to where the pure breed may be obtained. This item will inform our correspondents that we know of no one who has them for sale, and at the same time broadly hint to those who have pure Rouens for sale to advertise them. It would be a very profitable speculation, we doubt not, for some one to breed Wood Ducks to supply them to gentlemen having ornamental bodies of water in their grounds.

Grain Binder.—"More than one" of our subscribers inquire if there is any such thing as a machine for binding grain which does good work and is practically useful. We should be glad to know, also.

New York State Wool Growers' Convention.—Just as we go to press we receive the numerously signed call for this convention from Mr. H. S. Randall. The call is as follows—

The Wool Growers of the State of New York, and other persons interested, are requested to meet at the CITY HALL, (Court House,) in the City of Rochester, on Wednesday, the 21st day of September next, at ten o'clock A. M., for the purpose of organizing a State Wool Growers' Association, and adopting such other measures as may be deemed expedient.

Among the signers will be noticed 15 Presidents of the State Agricultural Society, with other equally prominent agriculturists. If properly carried out, this movement will result in good, and though we miss from the list of signers several names we expected to see, we hope the movement will enlist the co-operation of *all* interested, that in the Society formed there may be nothing cliquish, but unity for the general good.

The Self-Sewer advertised in our columns is a contrivance for guiding the work under the needle of a sewing-machine, which it does admirably. It is a great relief to the eyes and from the cramped position usually necessary, to have the work led straight to its place by means of this simple appliance. Every owner of a sewing-machine should be supplied with one.

Sunday School Question Book.—Price Changed.—The price of the S. S. Question Book is now 12 cents each, and the following prices, if sent by mail, will be charged—allowing 3 cents each for postage on any number over 10 copies.

1 copy, 16 cents.	4 copies, 60 cents.	7 copies, 1 04 cents.	
2 copies, 32 cents.	5 copies, 76 cents.	8 copies, 1 20 cents.	
3 copies, 48 cents.	6 copies, 92 cents.	9 copies, 1 36 cents.	

Mr. Judd Still Absent.—To the many kind inquiries in regard to Mr. Judd, we would reply that he is still confined to his room. The hopes of a speedy recovery, expressed last month, were not realized, as he suffered a severe relapse. The excessive heat, added to the exhausted condition of his system, protracted his illness, which at one time wore a very serious aspect. At the present time (Aug. 16th.) he is gradually, but decided ly improving, and we confidently expect he will be with us early in September. Those who have written upon matters requiring his personal attention will understand why their favors have not been answered.

ASSOCIATE EDITORS.

Important Remedy Proposed for Infectious Diseases.—Lung Murrain, etc.

The following communication to the *American Agriculturist* is from Dr. Stephen Bredin of Butler Co., Pa. We are gratified at having our attention drawn to Prof. Polli's experiments and agree entirely with Dr. B. in regard to the importance of having these remedies immediately tested.

"The perusal of a late article on Pulmonary Murrain in your excellent paper has induced me to call attention through your columns to the experiments of Professor Polli in the use of the sulphites of soda, potash, etc., in cases of blood poisoning from purulent infection or contagious disease. The experiments of this learned Italian professor were undoubtedly carefully conducted and extremely satisfactory, their results so marked and conclusive, that scientific men do not hesitate to aver that these experiments, in the benefit they are destined to confer, may be only second to that of the great Jenner in the discovery of the vaccine disease and its power over that loathsome pestilence, small-pox. A remedy so powerful as to prevent the death of an animal after having had as violent a poison as that taken from the nostrils of a glandered horse, introduced into the circulation of the blood, and afterward to bring about its recovery by neutralizing the same and enabling Nature to throw it off, is worthy of trial in pleuro-pneumonia or lung-murrain. The powerful antiseptic property of these sulphites is so conclusively shown in these experiments, a detailed account of which may be found in Braithwaite's Retrospect, that their preventive power in warding off the infection of lung murrain might prove very great. The magnitude of the calamity which the introduction of this terrible disease into our country at the present day may inflict, is so great, that any means to retard or destroy its pestilent force may be of incalculable benefit to us as a nation. The use of these salts may remedy faults, or violation of hygienic laws, in our treatment of the dumb beasts, which we do not now understand and which are yet to be overcome by science. The sulphite of lime is sold to prevent fermentation of cider, and the sulphite of soda* is a cheap salt used by every photographist. These are within the reach of every man. The lime salt is tasteless and inodorous, and could be given in the food, or if mixed with a little common salt, the cattle would lick it up; that of soda could be given with salt or in any way convenient: a tablespoonful of either twice a day might be sufficient to prevent infection after exposure, or to render the disease milder and less fatal after its commencement. During the progress of the disease, an ounce or more would have to be used frequently during the day, to secure the effect upon the blood. These quantities are not too great, perhaps are hardly sufficient to exhibit the full antiseptic power of the salt—of this, experience would be the guide. I am therefore anxious to call attention through your widely extended columns to the use of these simple and innocuous salts in all or any diseases where the blood is poisoned by any infectious matters."

* "Sulphite of Soda," is not the salt used by photographers; the hypo-sulphite is used. The medical effects of the two may be similar, however: but as it is often called improperly "Sulphite of Soda," this fact must be borne in mind to avoid disappointment.

Shall we Lend to the Government?

Our Government needs money to put down rebellion. Shall we, the people lend it, or shall the Government go to foreign countries for it? If we do the former, we receive regularly a high rate of interest, the investment is not taxed, the "7-30s" (which is the loan now offered) after 3 years, are convertible into 6 per cent, gold-bearing bonds, we help the Government to put down treason and rebellion; and the more the people take of these bonds, the stronger will be the Government, because it will be the personal interest of more people to sustain it, and its credit. If, however, we go abroad to have the loan taken, we make the country, and ourselves as of it, *tributary* to foreign nations. Our security is the stability and permanence of the Government of the United States of America. Who doubts this but traitors, and those who seek to impair its credit, and bring defeat to its arms?—Who, then, ought to take this loan? Whoever has even $50 to invest for a short or a long time. The bonds will always meet a ready sale, their value will increase, and every principle of patriotism, and all sound financial considerations unite in furnishing motives to all who have money to invest, to place it here. See notice of 7-30s on another page.

Chess or Cheat.—*Bromus secalinus.*

It is not the purpose of this article to discuss the often exploded fallacy of the transmutation of wheat and other grains into chess, but rather to show what chess is, and how it may be known when it is met with. It would seem from letters and specimens frequently sent to the *Agriculturist*, that all its readers do not know the plant. A gentleman near Utica recently sent us very fine specimens of a grass which came up among some seeds from the Patent Office. From its luxuriance, and the fact that horses seemed to be fond of it when fresh, he supposed that he had come into possession of a new and useful grass. It was very fine chess. The engraving of a full sized ripe cluster will enable any one to recognize the plant. The open, loose panicle (as the cluster is called), with its long stalked, separate heads, has a graceful and peculiar appearance, and it is not likely that any other grass can be mistaken for it. Before the grains commence to mature, the heads are narrower and more pointed than is here represented. The little *awn* or bristle to the chaff of each grain, varies very much in length, being sometimes much longer than is shown in the engraving. Although the chess grows luxuriantly, it can not be considered other than as a worthless weed which should be carefully eradicated. An attempt was made some years ago to introduce it under the name of Willard's Bromus. It was found to yield a large quantity of fodder, but its quality was found by direct experiment to be poorer than any other fodder, except oat-straw. Cows having equally free access to the Bromus or chess, and swale hay and corn-stalks, invariably neglected the chess.

Sowing Grass Seed in early Autumn.

The modes of seeding land to grass are so various, yet simple, and on the whole, uniformly successful, that we need not wonder at finding conflicting opinions among farmers. In this latitude, grass is the natural covering of soil denuded of the forest, and where bushes and trees do not come in naturally, the grasses will crowd out almost every thing else. True, they have a few associates which dispute the territory with them, as the white daisy, buttercup and yellow dock, but on the whole the grass is master. Naturally, grass seeds are sown in the heat of summer—that is, at this time they fall ripe from the stalk and find their way to the soil. Circumstances favoring vegetation seldom occur before the rains of August and September moisten the ground. These newly dropped seeds do not always germinate with the same degree of ease as those a little older; a few, however, spring up, get a good start before winter, and the next summer under favorable circumstances stand in their full vigor.

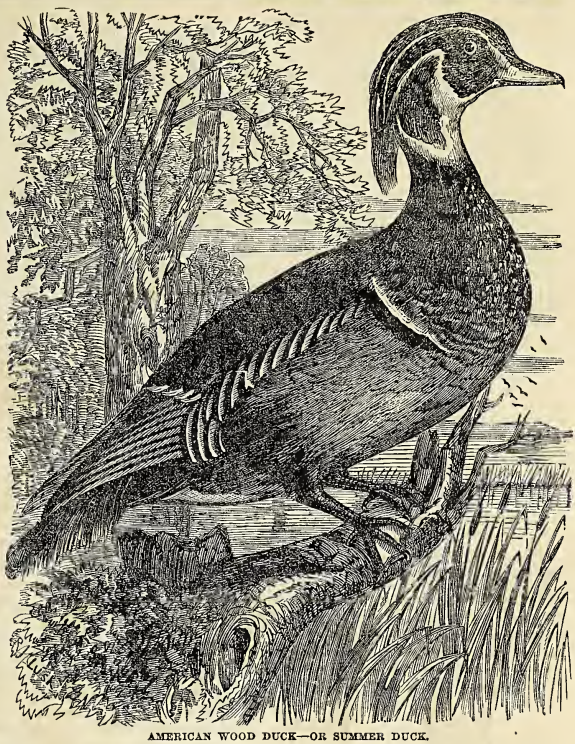
On good soils, not too stiff, and on which water does not stand in winter, grass seed sown before the middle of September, or even a month earlier, will generally make an excellent stand for the next cutting; even clover often does well, though we prefer, as a rule, to sow clover in spring. The ground is cleaner as a general thing in the fall, and the grass gets a good hold upon the soil, but hardly forms a sod. Clays, which heave by the frost, even when covered by a tough sward, are best seeded down in the spring, or with grain, for the protection afforded by a grain crop on such soils, especially if the roller be used in the spring, usually secures the grass from essential damage. As to the quantity of grass seed to be sown per acre, the practice of the best farmers is constantly increasing the quantity sown, and the number of kinds sown for permanent meadows, and for all purposes where grass *seed* is not sought. Grass lands are seldom over-seeded, and if they are, no harm is done, and the crop of hay may be increased and improved by a mixture of seeds. The seed ought to be sown evenly after thoroughly harrowing, and at this season it is usual to go over the field with a light bush after sowing the seed. There is little danger from drouth after the seed has started—for it will not generally germinate till after a good rain.

Tar, Pitch, Turpentine and Rosin.

The present high price of the products of the pine forests have led to many inquiries concerning the manner in which these are produced. Commerce was formerly supplied by the extensive pine regions of North Carolina and other Southern States. The species growing there are the Long-leaved, or Yellow Pine (*Pinus palustris*), and the Loblolly or Old-field Pine (*Pinus tæda*). The trees are "boxed," as it is called, i.e., a cavity is made in the trunk near the ground, sufficiently large to hold about three pints, from one to three boxes being made in each tree according to its size. The resinous juice of the trees collects in these boxes, from which it is removed by means of a wooden scoop, and transferred to casks. It is a white semi-fluid, having more or less consistence according to the season, and the length of time it has been exposed to the air. It is known as Turpentine and White Turpentine. The flow begins in March, and continues until checked by the cool weather of autumn. Two hundred and fifty boxes are said to yield a barrel of Turpentine. This natural product consists of a volatile oil and a solid resin. When put into a still and heat is applied, the volatile oil is separated and collected as Spirits of Turpentine, while the solid portion remains in the still—the Rosin of trade. Tar is obtained from the trunks and roots of old, and frequently, dead trees, by means of heat. The wood is cut in short pieces, split and stacked up, much as in burning charcoal. The kiln is covered securely with clay so that the combustion shall go on very slowly—the sap of the wood is "tried out" by the heat and runs out from the bottom of the kiln, through a channel provided for the purpose, in the form of tar. When Tar has its liquid parts evaporated by boiling it down to about one half its bulk, that which is left is Pitch. This is a brief outline of the manner in which these important articles are produced in the South. We have no knowledge of any experiments to produce turpentine from our Pitch Pine, though it has been successfully done with some of the species of California and Oregon. The Scientific American has an account of a still, recently patented, for distilling the spirits of turpentine directly from the wood, but it is not stated if the process is found practicable with the wood of any of our northern pines. Tar and pitch were formerly obtained in considerable quantities from Pitch-Pine, and it is said that their manufacture has been resumed in some localities.

The American Wood Duck—or Summer Duck.

In the last number of the *Agriculturist* (page 233), the fact was alluded to that we had in this country many beautiful varieties of wild ducks, some of which we know are capable of domestication, and more which have not been experimented with. One of the former we present an engraving of. It is the "Summer duck" of the Southern and the "Wood duck" of the Northern States. Either name is appropriate, for it is the only duck which remains with us during breeding season, except now and then a stray pair of Mallards, and perhaps a pair of one or two other kinds are very rarely seen; and its natural haunts are the deep quiet woods far from the dwellings of men. The bird is rather rare in New-England, especially so in the Eastern part, more plenty in New-York, and abundant in Pennsylvania, and to the westward, and South, wherever a wooded country offers, the pools and secluded river and lake margins close to which it delights to make its nest and rear its young. The engraving represents a beautiful bird, but one not familiar with these ducks would hardly credit the correctness of an accurate description of its colors. The bill and legs are red, the dark feathers of the head exhibit gorgeous steel-blue, coppery and green iridescence, and in some lights are jetty, velvety black or purple. The white feathers on the head and neck, in the queue-like tuft of the back of head, and on the shoulders, wing covers and sides are all clear vivid dashes in every case contrasted with black bands or bordering of dark, nearly black, feathers. The back shows the brilliant rainbow hues and metallic colors of the head, while the breast is of a delicate wine-color, spotted with white, and the belly white, shading into ash-color on the sides. These colors belong to the drakes; the ducks are similar, but much less showy. In Pennsylvania and northward they pair in April or May, and the female brings off her brood of 8 to 15 in June. They migrate just before winter sets in and are very likely to return to the same locality. The flesh of the young birds is highly esteemed. During the winter they go into the Southern States, and are there seen in large flocks.



AMERICAN WOOD DUCK—OR SUMMER DUCK.

This fowl has been repeatedly domesticated, so as to be as familiar as any denizens of the farm yard. The best way to get them would be to find the nests, which are usually in a hollow tree not far from water (they use an old woodpecker's or grey squirrel's hole if they can find one big enough), and transfer the fresh eggs to a sitting hen, or else take the very young ducks.

Take Care of the Second Grass Crop.

In many localities the main hay crop this year is a light one. The rains of early summer gave a large supply of feed in the pastures, and promised a large crop of new hay in the meadows; but drouth and frosts in June, followed by drouth in July, checked the growth of grass, so that there was finally only a light crop. Fortunately, the extensive use of mowing machines and horse rakes and horse pitch-forks, enabled enterprising farmers to cut their hay at the best time and to get it without great expense for labor and before it was dried up by burning suns. The strong arms of many of our sons and brothers in the field were indeed missed, but our good machines were stronger and more untiring even than they.

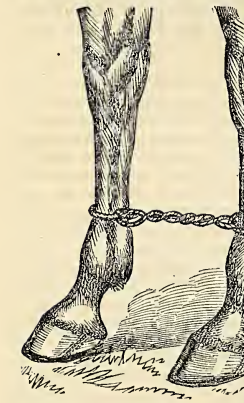
The question of high cutting or low cutting has been a good deal discussed among farmers this year. The advocates of the former claim that the stubble left affords shade to the roots in mid-summer and nourishment in the fall in its decay; so that in the long run we get more hay by the generous process than the other. The close cutters say that it makes no difference in the succeeding crop whether you cut high or low; if it did, we should find the grass stronger where the swaths had been pointed out high and the centers cut low. They also hold that where the meadows are fed off in the fall, the high cut grass is more likely to be pulled out by the roots than the low cut. The truth lies in the happy mean;—neither very close nor very high is the best policy. There will no doubt be many favored localities, where the rains of July and August will have revived the grass, and caused the growth of a fine aftermath. The "rowen" crop in general, however, will be light and not worth the cutting, if we judge by the present appearances of the scorched meadows. Still the inducement to secure the greatest quantity of hay in the best condition, is only increased by the short crop.

The best manner of curing hay, has been already discussed this year, and we are more and more convinced that hay is greatly injured

every year by over-drying. The greener it is got into the barn, so as not to mold, the better it will retain its flavor and tenderness. Cut in the morning after the dew has dried, grass may be exposed to one day's sun, and if dry enough, get it in before dark. If not dry enough, it should be cocked before the dew falls, the cocks opened for an hour or two the next forenoon, and then hauled in. This is common, and approved among all good farmers, but, nevertheless, many make the mistake of getting down more grass at one time than they can well manage. The loss of hay annually in this way is immense. The preferable way, as stated in June number, is briefly as follows: 1st day, cut (with a machine) after dew is off; put in cocks before 4 o'clock (N. B.: little or *no* stirring or turning); 2d day, open cocks after the ground is hot (no thin spreading or turning); afternoon throw together in loose heaps, and cock up before 6 P. M., making large cocks; 3d and subsequent days, let it stand in the cock, till it has sweat, and until it is convenient to get it in, then open and air the heap a little before carting in and salt in the mows, but not extravagantly, as is often necessary when hay is got in the same day it is cut.

How to Hobble a Horse or Mule.

Persons traveling on horseback, especially in new countries, have often occasion to let their horses graze. The horse is unsaddled, the bridle removed, and he is either tethered or hobbled and left to feed for the night or the "nooning." A horse accustomed to it will seldom do himself injury if picketed by a 25 or 30



foot rope—one end being made fast about his neck, or fastened in his halter, and the other end tied to a pin or stake. The cavalryman of the U. S. Army is provided with a 30 foot "lariat" of best hemp 1¼ in., 4-strand rope, with an eye spliced in one end, and weighing 2 lbs. 6 oz. Horses picketed with this or any rope are apt to get the rope caught under the fetlock of a hind-foot, and then, if being near the end of their tether, they happen to turn toward the stake, the chances are that they will be pulled back, and either be cast or strained, or the rope will chafe the skin or rub it off the pastern under the fetlock. This causes a very ugly sore, hard to heal, and apt to run into grease or scratches. Hobbled, by fastening the halter to fore-foot, the animal often gets the other foot over the strap and is then in trouble. If one fore-foot be tied to one hind-foot, there is a possibility that the other hind-foot may get entangled and the horse cast; and hobbled in either way, a horse that is used to it will make very good time, if any body wants to catch him in a hurry.

The best way of hobbling we have ever used is the one figured. It is perfectly safe on almost any ground; the horse can not get hurt even if the cord catches in a stub, unless he is frisky, and entirely unused to it. It may be made loose to permit ease in going, or so short as almost to prevent locomotion. A mule may be thus tied so as to be perfectly under control. With an ordinary hobble, and even with this, if tied 12 inches long, a mule will travel faster than a man can run, and dodge about astonishingly. But shortened down so that his longest step can be but about 1 foot long, he remains very truly your faithful and obedient servant. A simple cord a yard long, or a thong cut from a green hide, is all that is needed. The cord is passed once about the fore-leg above the fetlock and half tied, leaving the ends even; these are twisted together for a foot or less and half tied again; then they are passed around the other leg and tied fast in a square knot. If the horse is to be hobbled often, it is well to have two pieces of leather, 6 inches long, and 2½ inches wide, and cut transverse slits to pass the cord through half an inch from the ends. These may be put under the cord on the outside of each leg to prevent chafing, which they effectually do.

Work the Lazy Bulls.

Why should not these well fed lazy beasts earn their own living in the yoke? They are strong, the labor does them good, they are more easily handled, and *if* they be not overworked, are surer stock getters, in every way better, but not so handsome. The sleek look of the stabled and pampered lord of the herd, whose form is well rounded out, whose eyes stand out with fatness, may be lost in a measure, but firmer muscles and a better constitution, and habits of prompt obedience learned in the yoke, will more than make good the loss. Besides, the good looks of a really finely formed animal will not be essentially impaired. Work the bull with a head yoke as figured on page 80 (March), in a horse cart, or before a pair of oxen. In these days of high wages and scarce labor we should make the most of all the muscle on the farm. A subscriber in Wayne Co., thus wrote of a neighbor, some months since: "He has a three-year-old bull which he broke to work more than a year ago. He works him in yoke or harness, with lines and bits, or without, single before a wagon, or beside a horse, and at all kinds of work, and says 'he would as lief drive him before a $200 carriage as any way.'"

Sight, Hearing, and Smell of Horses.

A horse gains the knowledge of objects to which he is not in immediate proximity not alone by what he sees. This seems to be often altogether overlooked by those who cover up his eyes at least so as to prevent his seeing any thing behind or on either side of him. When a horse hears a strange sound he is bound to look at the object making it if he can. If he can not, it makes him nervous, restless and scary, while if he can satisfy his *sight*, even though he be somewhat alarmed, he will almost always submit to guidance, or will stand while it passes him. Strange smells sometimes affect a horse similarly to sounds, and because *we* can not smell any thing, or do not think of it as a cause of uneasiness, the conduct of the horse is inexplicable to us. When horses make the acquaintance of new and strange objects, their attention being attracted by sound, next they wish to see them, and when they have sufficiently and cautiously reconnoitred them, they *invariably*, if they can, approach and satisfy their sense of smell. When next the reader is driving a horse and approaches some object by which he is startled, let him observe the inflated nostril, and its quick motions, the rapid snuffs and deep inspirations of the animal. Thus the horse as evidently seeks informatiou about the object of his fears through the nostril, as by his hearing or sight. Those who blind their horses, that is, cover their eyes by "blinds" or "blinkers," if their object be to prevent the animals being alarmed, essentially fail; for until this semi-blindness becomes second natnre, they are anxious, and listening to every strange sound, snuffing every breeze,—in fact, trying to make good their loss of sight by caution, hearing, and scent. The horse ought for his owner's safety, and his own comfort, to have the free use of all his faculties. We would never break a horse to be driven with blinders, nor use any horse thus blinded, unless early education had made it necessary. The custom of our best horsemen is to supply the place of the old blindered head stall by a light strong bridle. The horses look better, travel more securely, as they see better how to pick their way over slippery pavements and rough roads, and as far as our own observation goes they are freer and easier on the road, more trusty and less liable to shy. All lovers of the horse will hail with pleasure his freedom from this imposition.

Winter Wheat.

Wherever in temperate regions of the world we find good farming, *Wheat* is a staple product. For continued success the crop needs very discriminating and intelligent culture. It has many enemies, requires excellent soil, well drained and enriched, a careful selection and preparation of seed, and care in harvesting to ensure success. On new land or in a new country, most of the conditions for success are found in the soil, and in the absence of insect enemies, but if, when the country grows older wheat gives place to coarser grains, the evidence is incontestible that the farmers lack intelligence in regard to their own business. This deplorable state of things exists in many parts of our country, but happily in some extensive regions, intelligence, and with it the culture of wheat, are rapidly increasing. This is true of some parts of New-England and of New York, and both spring and winter wheat are now raised where the culture was suspended a few years ago. Thorough drainage, the use of clover as a green manure, and a less exhausting system of cropping with cereals and grasses, the extensive introduction of root crops, and more liberal and intelligent system of manuring have contributed to this effect.

The earlier wheat is sown after the middle of August, the better on the whole. Early sown wheat heads earlier in the spring and is less subject to injury from the midge (*Cecidomya tritici*), which attacks the heads. Late sown, on the contrary, is more likely to escape the Hessian fly, a closely allied species (*Cecidomya destructor*), which lays its eggs on the leaves in September, and also in May. Feeding off the early sown wheat about the first of October, with calves or

young cattle, is often destructive of great numbers of the fly. Still of late years this insect has so decreased that it is not greatly feared nor regarded where formerly it was very destructive.

Rust and smut are vegetable parasites; both are in good measure prevented by soaking the seed in strong brine containing blue vitriol (sulphate of copper) in solution. Grain thus soaked and washed is easily separated from the light grains and chess, and it is usually rolled in dry fresh slaked lime subsequently, and allowed to lie a day or two before sowing. Bearded varieties escape the attacks of the midge better than the bald kinds. For early sowing, the choice of seed is large, and a novice at wheat raising may well select any favorite variety in his neighborhood; for late sowing, however, the Mediterranean is preferable from its quicker maturing. Wheat ought never to follow another cereal crop. Everywhere, except on the virgin soils of the West, whereon no deterioration has been observed after successive years of cropping without manure, the soil should be well manured. Turning under of a clover lay in the summer, and giving a dressing of 10 to 20 loads of fine manure to the acre after plowing in August or September, the grain to be harrowed in with the manure, if sown broadcast, or lightly plowing the manure under if the grain is to be put in by the drill (which is preferable), is a practice which will give good results.

The necessity for underdraining wheat lands, and for giving the soil depth and pulverulence, if wheat raising is to be pursued profitably, is the result of the experience of good farmers throughout the world; the best farmers in this country are falling into line with their brethren. The tile drains should be 4 feet deep and 25 to 40 feet apart. Round tiles with collars are best. The heaviest clays, by thorough draining, make strong and excellent clover and wheat lands, after they are thus brought into fine tilth. The clay loams are, however, preferable soils, as grain is less liable to winter-kill. An application of two bushels to two-and-a-half of salt to the acre, has an excellent effect. It may be applied before sowing or in the spring. Sown early, the tendency of the plant is to "tiller," that is to make many stems from a single root. And thus it happens that a bushel and a half of grain sown early in September is fully equal to two bushels sown in October, or two and a half sown in spring. A root of winter barley now on the tables of the *American Agriculturist* has 56 bearing stalks and over 1,500 kernels (by estimate). These facts exhibit one of the great advantages of drilling in the seed: a smaller quantity is required, and as each plant has plenty of room, if it have time, to tiller, the saving of seed may amount to a peck, or even half a bushel in many cases, to the acre. The other advantages—the evenness of the stand, the equal depth at which the seed is laid, the evenness of the maturing of the crop, ought not to be overlooked in deciding how to put in wheat, especially as the increase of the yield may be put down at from two to eight bushels per acre of drilled over broadcast wheat.

The Garden in Autumn.

In this country but little is done in autumn to prepare for very early vegetables next spring, except by professional and market gardeners. Cabbages and cauliflowers may be had very early by sowing them this month, and when the plants get about three inches high, transplant them to a cold frame to keep through the winter. Spinach sowed this month may be kept through the winter by a slight covering of straw and will give very early spring greens. The prickly-seeded variety is considered the most hardy. Kale, of the variety called the Siberian or German-greens, can be sown now: it is grown in the same manner as cabbages, and will generally endure the winter without any covering. Seeds of the Brown Dutch and Brown Winter-cabbage Lettuce are often sown with the late spinach. The plants will be ready in spring for early transplanting. Radishes and early turnips may be sown early in September, to give a late supply, and winter radish will perfect itself.

The Grape Vine in September.

If the vine is allowed to grow on, unchecked, there will be, at the end of every shoot, a portion of very immature wood. If the growth is stopped in September, the energies of the plant, which would have been expended in prolonging the shoot, are directed to maturing the remaining wood, as well as to perfecting the buds which are to produce the fruit the following year. The statement which has been made, that certain of our native grapes can not be successfully trained upon the arm and spur system, are doubtless owing to the fact that the system is not fully carried out. The success of this method of pruning, in good measure depends upon stopping the upright growth of the canes at three or four leaves above the last bunch of grapes, and in keeping the laterals thoroughly pinched in. Both these operations are necessary to secure well developed buds to produce the next season's fruiting canes. Moreover, this early stopping of the growth has a tendency to cause the roots to mature sooner, and to be better prepared to endure the winter. When rot appears, it has usually done its work before the present month, but if any defective berries are seen upon a branch, they should be removed.

A Floral Philippic.

EDITOR *American Agriculturist:*—You advocate raising flowers and ornamental vines. This is all very well in its place, I suppose; but tastes differ. And is not the thing sometimes overdone? For instance, in one neighbors' gardens, I saw great quantities of *Convolvulus arvensis.* [See note.] Along the fence was a flaunting mass of *Saponaria officinalis.* With great zeal and success, too, he was growing the *Lappa major*, raising seeds for a new supply next year. This plant was introduced from Europe, and has splendid, tropical looking leaves; hence, perhaps, its popularity. It seems hardy enough to go through the winter without protection. Its mature heads are often used to deck the tails of cows and sheep, and the manes of horses.

Another farmer across the way has gone into the cultivation of *Leucanthemum vulgaris.* This, I admit, is a showy flower, with its golden centre and diverging snowy rays; but then my friend overdoes the thing, growing them by the acre. He says that not only is the plant beautiful to the eye, but it improves the milk of the cows who feed upon it. I never could "see it" in that light; but he is a man of remarkable taste. Not content with this, he has added the purplish pink blossoms of the *Cirsium arvense.* This plant is armed with spears against the aggressions of man and beast, and is little likely to be disturbed by either. The flowers are fragrant, and the plant is hardy and easily disseminated by seeds and extension of the roots. Some of his neighbors think it is disseminated a little too fast to make it considered choice.

But I can not describe all the flowers being raised around me; such as the *Verbascum Thapsus*, tall, symmetrical, its flower stalk resembling the far-famed Century Plant; *Rumex*, *Asclepias*, *Plantago*, *Polygonum*, *Ranunculus*, *Taraxacum*, *Inula*, and so on. They are grown near fences, stone heaps, and along water-courses. None can deny that they give a certain wild, free-and-easy look to one's homestead. It is an easy matter to raise them, and so save a world of trouble to the proprietor. Yet I honestly doubt whether it is wise to devote so much of one's land to mere floral embellishment. These fancy-things will soon occupy the whole of one's farm, and I don't believe *that* would pay. At any rate, the plants I have mentioned are getting to be so common as to be a little vulgar. Why not give us something new? CERES.

[It is evident that our correspondent does not like flowers, or else he means to hit somebody. Perhaps our readers can better understand his motives if we supply the common names to the plants of which he has given the botanical ones: *Convolvulus arvensis* is Bindweed; *Saponaria officinalis* is Bouncing Bet; *Lappa major*, Burdock; *Leucanthemum*, Ox-eye Daisy; *Cirsium arvense*, Canada Thistle; *Verbascum* is Mullein; *Rumex* includes Yellow Dock, and Red-Sorrel; *Plantago* is Plantain; *Polygonum*, Smart-weed; *Ranunculus*, Buttercup; *Taraxacum*, Dandelion; and *Inula* is Elecampane.—EDS.]

What Currants Shall I Plant?

This question will doubtless be asked by many, for notwithstanding the great ravages of the "new currant worm" in some localities, the currant will continue to be a favorite fruit. The autumn is the time to strike cuttings, as nearly a year is gained over those cut and set in the spring. Seven cuttings out of ten will grow with the most indifferent treatment, and with care, every cutting will make a plant. Directions will be given in the Calendar at the proper time. The catalogues have lists of many varieties with high sounding names, given by cultivators of repute. Having had some experience, and large observation with these new varieties, we have come to the conclusion that most of them may be stricken out as worthless; by which is meant that they do not present any qualities superior to the old and standard varieties. Our selection would be confined to three varieties: Red Dutch, Versailles and White Grape. The Red Dutch has the true currant flavor in greater perfection than any other, but in size of bunch and berry it is exceeded by the Versailles, which is less acid than most of the red varieties, and is a berry which will give general satisfaction. The White Grape is a fine fruit and is larger than the White Dutch. The new seedlings recently sent out from Europe present peculiarities in color, etc., but none of them are better than those here enumerated. When a better red currant than the Versailles or a better white one than the White Grape is produced our readers shall know it.

THE HOLLYHOCK.—It often happens that a fine sort is obtained which it is desirable to perpetuate. This can be done in two ways: by cuttings and by dividing the root. If bottom heat is available, cuttings may be made of the strong shoots which appear at the base of the flower stalks. The cuttings need to be kept in a close atmosphere until they strike. Strong plants may be divided as soon as out of flower. Take up the roots and part them so that each section has a share of roots. Give a shady place, and in spring, plant where they are to flower.

GROUSE-SHOOTING IN AUTUMN.—*Engraved for the American Agriculturist.*

Protection to Farmers and Game.

No country in the world more abounds in game than our own, wherever the settlements have not driven it away. Young America used to be familiar with the haunts of all wild birds, and the pop of his fowling piece echoed through the woods in spring, summer, and autumn. Little regard had he to pairing or breeding time. Finally, our legislatures passed laws limiting the shooting, trapping, and snaring of certain wild fowl and game, to definite and proper seasons, and these laws have come to be regarded in a measure. The farmers are very willing to help put an end to the annoyance of gunning in their woods and meadows,—boys tramping through the grass and standing grain, stealing messes of roasting ears, etc. All honorable sportsmen obey the laws and abide their time. So there is less gunning now than formerly. As soon as "the law is off" for certain birds, so soon is all thought of protection to the crops against men and boys given up, and the farmers, glad in the protection the law has afforded during the summer, quietly, if not joyfully, "take the spoiling of their goods."

We are much in favor of hunting, and believe in encouraging the use of the gun in all proper times and ways. Still the fact remains that if farmer or land owner chooses to say *No*, then it is *tresspass* to go upon his land for any purpose. The owner may retain or *sell* the exclusive privilege to take the game on his premises. Were this practice common, its immediate result would be an encouragement and increase of game throughout the country. The game-birds are all insect-eaters, and though they eat grain also, during a large part of the season, their chief-food consists of grubs, of bugs, and beetles, and insects generally, which now multiply to the great damage of our forest and fruit trees, and farm crops. These birds are of much more benefit than injury, in fact the harm they do in the grain fields is barely noticeable, except possibly when they are in very large numbers. They seek their food on the ground almost without exception, and so pick up grain which would be likely to escape the cradle. In severe winters, sometimes, the partridges devour the fruit-buds, in the orchards, but are easily driven away, and at any rate would much prefer corn or buckwheat, thrown out for them.

Throughout Europe in the aggregate, a very great revenue is derived from sportmen's licenses, or from the sale of the exclusive privilege of hunting in specified districts. In many countries these hunting rights are held by townships or parishes, and are sold by them for terms of years, the money going to specific public objects, and the very same thing might be done in this country, wherever the landowners of any school district or township would combine to accomplish it. The game would increase. There would be no difficulty in finding sportsmen to lease the right, provided the farmers would unite to secure them in the enjoyment of it, and they would take care that the game should not be so much reduced in numbers as to affect the next or subsequent year's sport unfavorably.

Hundreds of dollars might in this way be added to the school fund, or secured for some other object, which would make it the personal interest of every good citizen to protect the game and the rights of the sportsman. It would do away with the inducement for irresponsible parties to keep dogs, equally good for starting a rabbit or for harrying sheep. Such action on the part of country school districts would promote sportsmanship, it would fill our markets with fresh and choice game, and a great damage would be done to the insect depredators in field and forest, were it general.

A Limerick banker, remarkable for his sagacity, had an iron leg, "which," said Curran, "is the softest part about him."

When a gloom falls upon us, it may be we have entered into the cloud that will give its gentle showers to refresh and strengthen us

The Coral Tree.

(*Erythrina Crista-galli.*)

This showy Brazilian plant is a fine ornament to the green-house; it is sometimes seen in gardens, but not nearly so often as it ought to be; it is managed with the same ease as a dahlia. It makes a thick, woody, short trunk, or bulb, which throws up numerous stems four to six feet high, each one terminated by a long spike of blood-red flowers. The engraving shows a short spike reduced in size. The leaves are on long petioles, three-parted, and like the stem have strong hooked prickles. The plant belongs to the Pea-family, and the flowers appear somewhat like those of a pea with the parts very much distorted. The flower is very thick and leathery, and is nearly as showy before it opens as it is afterward. The name Coral tree was probably given on account of the color of the flowers. Planted out in the lawn, or set in the grounds in a large pot or tub, it is a most conspicuous object, and it is equally valuable for the decoration of conservatories. Plants may be obtained at the florists in the spring, and they may be grown in good sized pots, or set in the open ground as soon as the soil gets warmed. Each plant will throw up several stems, the number and size increasing with the age of the root. When the leaves are killed by the frost, cut off the stems within two or three inches of their base, take up the root and keep it in the cellar or green-house in a box of sand or dry earth until the next spring. If the plants are in pots, the roots need not be taken up, but they should be kept quite dry until it is time to start them again. This is the routine for out-of-door culture. When grown in the green-house, they may be started at any time, taking care to give them two or three months rest after flowering. New plants are obtained by taking off the young shoots which start from the root in spring, and rooting them in sand, or cuttings of the old flowering stems will soon strike root, if they have bottom heat.

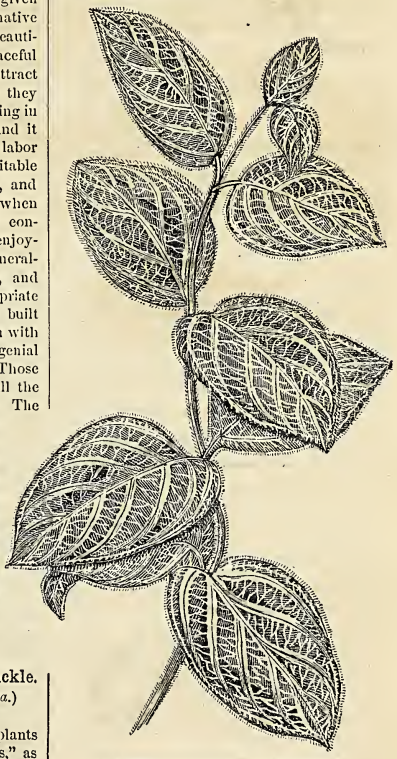
The Cultivation of Ferns.

In the July *Agriculturist* of last year, an illustration was given of some of our native ferns. Their beautiful form and graceful habit always attract attention when they are found growing in the wild state, and it takes but little labor to prepare a suitable place for them, and plant them, when they will be a constant source of enjoyment. They generally need shade, and the north side of the house is an appropriate place for a fernery. A few large stones built into a rock-work, with the spaces filled in with earth from the woods, will afford a congenial home for most of our native species. Those coming from a limestone region will do all the better if a little mortar-rubbish is added. The woodlands, swamps, and rocky hills will all afford material to stock the fernery. Give each species a situation as near as possible like that from which it was taken. Those from the low lands may be put in the earth at the base of the rock-work and be watered as needed, and those from arid hills may be placed at the top of the rock-work where they will be kept comparatively dry. When once planted and established, they will require but very little attention afterward.

The Japanese Variegated Honeysuckle.

(*Lonicera brachypoda, var. aureo-reticulata.*)

The prevailing taste just now is for plants with variegated leaves, or "foliage plants," as they are sometimes called in the gardens. The number of these has of late greatly increased, and among those recently introduced are many which are noticeable for their oddity rather than their beauty, and such will never become popular. We can see no beauty in a Horse-chestnut or an Ash which has its leaves marked with irregular white spots, which give the tree the appearance of being in an unhealthy condition. On the other hand there are some of these variegated things which are quite ornamental, such as the Weigela, Vinca, Snowberry, etc., and which make a pleasing contrast with plants with green foliage. One, the prettiest of all the recent introductions, is the variegated Honeysuckle. This was sent to Europe from Japan in 1861, soon found its way to this country, and has been multiplied to such an extent that small plants were this year sold at 50c. each, and probably next year will find them in all well established nurseries. The engraving represents a small branch, and gives the size and shape of the leaves and the manner in which they are marked, but it can not convey any idea of their beauty. The leaves are of a bright green, beautifully veined with golden yellow, in a manner that makes the term *aureo-reticulata* (golden-veined), appropriate as applied to the plant. Its showiness is increased by the young stems, which are often of a bright red color. This honeysuckle climbs readily and is perfectly hardy near New York, and will doubtless soon become very popular. We have seen only young plants which were six feet high, and can not say to what hight it will reach. The species of which this is a variety has pretty



JAPANESE VARIEGATED HONEYSUCKLE.

flowers and probably this will flower when the plants are old enough. Propagated by cuttings. It is a very singular fact that both native and foreign plants, in Japan, are subject to this variegation in the foliage. The matter has not yet been sufficiently investigated to enable us to say whether it is due to any peculiarity of soil or of treatment. It may be simply the fact that the peculiar taste of the people leads them to foster all plants with curiously discolored foliage.

The Red Spider on Pear and other Trees.

The scorched appearance which the leaves of the pear sometimes put on, especially in hot weather, leads many to suppose that they have been burned by the heat of the sun. The injury is more likely to be caused by the gardener's great enemy, the Red Spider, which does not confine its depredations to plants in the green-house, but attacks those out of doors, and infests even fruit and forest trees. Many of the evergreens at Central Park, and at places on the Hudson, have suffered severely from this, or a very similar species, during the long drouth of June and July. The insect is so small as to escape general notice, but if one observes closely, the leaf will be found to have numerous small reddish or brownish specks upon it, which when magnified largely, look as in the figure. One of the natural size would be but a mere point if shown in the engraving. They may be seen running busily about or quietly sucking the juices of the plant. They also do injury by stopping the pores of the leaf by means of a film or web which they spread over the surface. The name given to it by naturalists is *Acarus telarius*, and though called Red Spider it is not a true spider, but one of the mites. The fumes of sulphur are used to destroy the insects on plants in houses, but this is hardly applicable out of doors. An experienced cultivator informs us that he finds that syringing the trees with a solution of whale oil soap—1 lb. to 8 or 10 gallons of water will in two applications effectually clear the trees of the insect. Common soap suds with some sulphur stirred in, is used in England for the same purpose. The insect flourishes best in a warm and dry atmosphere, but dislikes a warm and damp one, and there is no doubt that syringing with water alone would be of great service in destroying the pest.

RED SPIDER, MAGNIFIED.

A Home-made Fruit Picker.

A great amount of ingenuity has been expended in contriving implements for securing fruit inaccessible by hand. The general fault is that they are too complicated and liable to get out of order. "Veteran," of Somerville, Mass., makes a fruit picker as follows: "Take an old quart tomato can, and insert it in the coals; when it has remained long enough to melt the solder, pull off the top with a pair of pincers and file the edge of the can smooth. Take part of another can and make a socket, and solder this to the bottom of the can, put an old rake handle into the socket and the implement is complete. To use it, put a handful of grass in the bottom of the picker, then press the edge of it against the fruit stem at its junction with the limb, and you will have the fruit without a bruise." The cut shows the picker without a handle. Every housekeeper ought to know how to solder, and such can readily fit a socket of this kind. Those who can not tinker, can use a can nailed or screwed to the top of a long handle. It is worth while to take a little trouble to save fine specimens of fruit without bruising.

FRUIT-PICKER.

A Wild Native Stock for Pear Trees.

The report of the Secretary of the Maine Board of Agriculture, for 1863, gives an account of the experiments of Mr. Jefferson Stubbs, of Hampden, Me., with the common Shad-bush as a stock for pears. The shrub is *Amelanchier Canadensis*, grows all over the country, and is known by the popular names of Shad-bush, Juneberry, Service-tree, and Sugar pear. It presents a great variety in the size of its flowers and the character of its leaves, and is one of the most conspicuous shrubs in May. Mr. S. transplants his trees from the woods, heads them back severely, and grafts on the new growth thus produced. "He claims that they bear early and constantly, and that they are perfectly hardy." He has an orchard of two hundred and fifty trees treated in this way, including the following varieties: Madelaine, Tyson, Buffum, Pratt, Bartlett, Flemish Beauty, Onondaga, Louise Bonne, Seckel, Beurre Diel, Urbaniste, and Winter Nelis. A western nurseryman states that he has budded on this stock, and that the trees promised well, but that in moving his nursery they were lost sight of. The subject is an interesting one, and if any of the readers of the *Agriculturist* have had experience with this stock for pears, they should communicate it.

Save the Leaves.

"R. J. H.," writes that an old gentleman, a neighbor of his, who has a large garden, said to him: "I don't know what on 'airth to do with them pesky leaves, they kiver up everything, and make things look kinder shiftless." According to our observation there are many others who have not yet learned the value of leaves. In their desire to keep the garden and grounds neat, they put the fallen leaves out of sight without a thought of the value of what they are throwing away. Leaves are useful in two ways; in their entire state as a mulch, and decomposed as a manure. Leaves are the natural mulch. Go into the woods in autumn and look under the leaves and you will find various seeds sprouting under them and getting a sufficient start to enable them to winter under this genial covering, and break into vigorous growth with the return of spring. The beautiful wild flowers, which die out when taken to the garden, are in the woods nicely tucked up under a coverlet of leaves; they sleep warm and awake strong and refreshed. There is no better winter covering for a strawberry bed, and for herbaceous plants generally, than a good coating of leaves. The great difficulty is, they will blow away. This may be prevented by laying brush upon them, or giving them a light sprinkling of soil. Plants protected in this way have a covering which will ward off the injurious effects of sudden changes of temperature, but will not pack so closely as to endanger the health of the plant. Decomposed leaves are valuable, and in the form of leaf mould are considered one of the chief fertilizers. Aside from the purely vegetable matter they contain, the leaves have also a great deal of mineral matter which is deposited in them during the constant evaporation that is carried on during the growing season. This mineral matter is in just that finely divided and soluble state which makes it ready to be again taken up by other plants. The leaves of trees when burned, give from ten to thirty per cent. more ashes than the wood of the same tree. It will be seen that leaves are of the highest value in the compost heap, the barn-yard, and the pig-stye, and he who neglects to save them disregards the sources of fertility which nature is kindly offering him. Even thus early in autumn many leaves will fall, and the collection should be begun and continued, and any place, large or small, will find a well sheltered pile of leaves valuable to draw upon for mulch, for winter covering, and for use in equal proportion with manure in hot-beds. Those not needed for these purposes may add to the richness of the manure heap. By all means save the leaves.

Hanging Baskets for Plants.

These have now become among the most popular of household ornaments, and justly so, for they are equally in place in the rooms of the wealthy and the poor. The baskets as they are prepared for sale by the city florists, are often unsatisfactory, as they sometimes contain plants which do not flourish out of the atmosphere of the green-house. The best way is to start the plants, in partial shade, out of doors, or under a verandah, and have them ready to remove indoors on the approach of cold weather. Baskets or vases made of different kinds of pottery, and of various fancy patterns, are sold at the stores, but one need not be at the expense of these. A rather short flower pot may be enclosed in a frame of rustic work, made of limbs with the bark on; or a basket may be constructed out of small crooked branches; annealed iron wire (afterward painted green), or even a wooden bowl or zinc pan properly covered and ornamented may be used. Ample provision should be made for drainage when a pan or bowl of any kind is employed, by means of holes through the bottom. Baskets of rustic work or wire need a lining of moss from the woods, within which some good potting earth is placed. Pots or other vessels should have a good drainage of broken pots and some moss over it, and then be filled with earth. Suspend by means of wires or chains. Any one with a little ingenuity can contrive some kind of a hanging basket. It would be better of rather large size, say half a gallon or more in capacity, than smaller, as the small ones soon dry out. The first thing to secure in the way of plants is a good green, and nothing is equal for this purpose to the European Ivy, which grows in the shade, retains its fine green through the winter and will stand almost any thing but sudden thawing after being frozen. Small plants may be had cheaply at the nurseries, and cuttings will grow with the greatest ease. If plants can be had with stems of sufficient length, they may be twined around the basket and be made to form a beautiful green covering to it. Another useful plant, and one which is very common in old gardens, is the Periwinkle (*Vinca minor*), sometimes improperly called Myrtle. There is a variegated sort of this and of the *Vinca major*, which are both beautiful and useful in baskets. The Ivy-leaved Geranium, of which there are several varieties, and the striped Tradescantias are also desirable for both their foliage and flowers, as is the old-fashioned *Saxifraga sarmentosa*, the Beef-steak plant or Wandering Jew. A basket made up of these is a beautiful object without any flowers. We must confess that we have never had any very great success with flowering plants in baskets; the best among those tried was *Mau-*

randia, and after this *Lobelia gracilis* and *ramosa*. *Convolvulus Mauritanicus* is highly recommended, as are some of the *Tropæolums*. Where the basket is quite large, small pots of any plant in flower may be set in and changed as often as need be. To water the baskets, plunge them in a pail or tub of water and let them remain until soaked through, then allow them to drain until the water no longer drips from them, and hang them in place.

The Management of Pears.

Almost daily, specimens of pears are brought to the office of the *Agriculturist* to be named. These specimens, coming from inexperienced cultivators, show that the proper management of this fruit is not generally understood. The life of a pear may be divided into two periods; growth and decay. During its growth the forces of vegetation are at work in building up its structure and it increases in size; then there comes a period, early or late, with the different varieties, when growth ceases and decay begins. It is not feasible to give at this time an account of the chemical changes which take place, but it is within the observation of every one that early pears pass from maturity to decay in a few days, while the late ones, though they go through the same process, are weeks, and even months, in completing it. There is a point in their progress from maturing to decomposition which we call ripeness. It is when the acids of the fruit are more or less changed into sugar, to give sweetness, and when other principles have been converted into water, and imparted juiciness, that we say the fruit is "in eating." Whether a variety of pears shall be considered as good or bad, will depend upon testing it just at the time when these conditions are most perfectly fulfilled. Moreover it is found, as a general thing, that the more slowly these changes go on, the more perfect they will be. The Vicar of Winkfield ripened up in October or November, is hardly eatable, but kept cool, and allowed to perfect itself gradually, until January and February, it is really good. There are so few exceptions, that it may stand as a general rule that pears should be ripened in the house. By this means, greater sweetness, juiciness, flavor, and higher perfection in every way will be secured. Summer and autumn varieties should be picked as soon as full-grown, which may generally be known by the softening of some of the earliest specimens, and spread upon shelves to ripen. When there is much fruit, it will be found necessary to have a fruit-room. This may be a closet, or other small room, in a cool part of the house, furnished with shelves upon which the fruit is spread. In this way the progress of each variety may be daily inspected. When it is desirable to retard the ripening, the room may be cooled by having an ice shelf near the ceiling with provision for carrying off the drip from the melted ice. A good sized block of ice, wrapped in a woolen cloth, will keep the air of the room both cool and dry. Ledges upon the edges of the shelves will keep the fruit from rolling off, and moveable cleats may be used to separate the different varieties. Winter pears are kept on the tree until frosts come, and are then barreled like apples, and kept as cool as possible, until wanted for eating. A few days exposure in a warm room, will bring them into the proper condition for the table. Where there are but a few specimens of pears, an ordinary case of drawers will be found a convenient substitute for a fruit-room for ripening pears.

THE HOUSEHOLD.

The Bread Discussion Continued.

This subject is of such universal interest to housekeepers, that we feel warranted in giving it more space than is usually allowed to any one topic. A contributor to the *American Agriculturist*, "Not a Bachelor," at Deer Park, L. I., makes the following sensible, practical suggestions: "It is not necessary to give any particular rule for making bread, there being a number of good methods; therefore I will give a few hints to those just commencing, if not to those who already know how to make bread. By observation I have found that the majority of bread-makers leave it a little too long before baking, in which case the original pleasant flavor of nice sweet bread will be lost. The sourness, however, may be removed by thoroughly mixing through it a teaspoonful of dissolved baking soda to four common sized loaves, but nothing can fully restore its primitive goodness, though the addition of soda improves it. If *very* sour, more soda should be used. Bread is best when made and kept warm enough to lighten in the shortest possible time; hence bread made over night is never quite as good. Before it gets fully light, it should be well moulded into loaves, and put into buttered pans or dishes and set near the fire, or in some very warm place to re-lighten. A little melted butter brushed over the top of the loaves improves them, and prevents a hard crust. When it commences to rise, turn the dishes, if necessary, to cause the bread to lighten evenly—after which it should be put into a reasonably hot oven, and the fire increased and kept at a steady heat until nearly done. But it should not be left an hour without any thought of its well-doing, because no stove oven is so perfect as to bake exactly even without some attention; therefore look to it, and turn or change the dishes when its appearance seems to require it. Where a brick oven is used, it demands less attention, as it is supposed to bake alike on all sides. After bread is baked to a light yellowish brown, and done through, take it from the dishes, and set each loaf separately to cool. Or if the crust is liked soft or brittle, spread a clean towel in some convenient place in the open air, take the hot loaves from the dishes, set them upon the towel without covering, and leave until entirely cold, when they should be put away for use. This last mode I consider an improvement, though all may not like the extra work."

Directions for Good Bread, by "E. W. L."—Sift 10½ lbs. flour into a large wooden bowl (wood being the best to retain heat), and warm it to 70 degrees (Fahrenheit). The way we warm it is to let it stand on a chair near the kitchen stove, and occasionally stir it, and turn the bowl. Take a dozen medium sized potatoes, peel, boil down, mash and strain through a colander, and add enough water to measure three pints—this mixture should be as warm as 84 degrees. Then stir this in the flour (scooping out a place in the center) until it is a thick batter, add two yeast cakes or one cent's worth of yeast, place an inverted pudding dish or pan over the mixture and cover the bowl with a blanket, and so keep warm until morning. In the morning add a quart of milk-warm water, and three tablespoonfuls of salt, and knead in all the flour. When sufficiently light, mould in loaves, (it is much better to put two loaves in a pie-pan than to have deep, round pans, as the crust forms too quickly and prevents the bread from rising,) and let them stand about ten minutes, and bake in an oven heated "just right."

Bread from "Salt-rising."—Mrs. S. A. Smith, Green Lake Co., Wis., writes to the *American Agriculturist:* "I use salt-rising, that is a little salt and a little saleratus [how much?—Ed.] ou which pour about a teacupful of warm water, cool with cold water, and thicken with flour or shorts. If in no hurry, I stir the flour in the boiling water; this is longer rising, but will not sour so soon, and is much nicer. When light, put a quantity of flour in the bread-pan and pour in boiling water and stir up; then cool a little with cold water and stir to a thick batter; then add the rising and set to rise. When light, knead thoroughly (twice kneading is better); butter the loaves on the outside, let rise and bake in a quick oven. This makes sweet bread that does not soon stale."

Lima and other Beans Dried Green.

The Lima is the prince of all beans—good dried in the pod, better still shelled green and dried, and best picked fresh from the poles in summer. The good housewife who has never used them in compounding that ambrosial dish, succotash, has yet a charm in reserve for her lord of creation, when she comes *to know beans* that *are* beans. Their highest use is in this dish, and if it were not for offending the universal Yankee nation, we should say that the larger part of them have never yet eaten succotash. You think at once of Scipios, Cranberries, Chinas, Lafayettes, Jacksons, Marrowfats, and the thousand and one names by which good beans are distinguished. They have their uses, but, as compared with the Limas, they are not fit to put into this incomparable dish, eater. in its glory only in summer when the beans are yet green, and the corn is in its most juicy state

The next best stage of the article is where the corn and beans are canned in the usual way of preserving fruits. But if this is too much trouble, then dry both corn and beans in the green state. Almost every good housekeeper in the country understands the mysteries of drying green corn in the hot September sun. It is not so generally known that beans dried in the green state, by the same process, either in the sun or by the kitchen stove, are quite as valuable as the corn. In the case of the Limas, we have a double object in drying them, to save them and to get the best part of our crop. The Lima grows luxuriantly, and continues bearing until it is cut off full of succulent pods by the frost. Ordinarily about one-third of the yield will be in this green state, and will be ruined by the frost unless picked and dried. If properly secured it is the most valuable part of the crop. You have something that will exactly match the dried corn. I pick them a few days before the frost, shell them and spread them upon a cloth or board, dry in the sun a day or two, and finish the process by a little heat in the kitchen. The object is simply to dry them thoroughly, not to cook them at all. They are then put up in a bag, and hung in the store room ready for use.

The beans that ripen upon the poles are shelled and stored in the same way. These are used principally as a vegetable during the winter. They are a good supplement to potatoes on the most bountiful table, and an excellent substitute when the potatoes are lacking. On a good dry soil they are as easily raised as other beans, they are more productive, and yet they are almost always double the price. The difficulty of raising them is greatly overestimated. They should be planted with the eye downward, and only three or four left to grow in a hill. The plan of starting them in a sod under glass, and then transplanting, will do for more northern latitudes, but is not necessary in this. The first week in June is the time to plant. As we can now dry and save green beans, the fact that they require a long season to perfect the whole crop is of less importance. Let us popularize Lima beans. CONNECTICUT.

How to wash a Thread-lace Collar.—Communicated to the *American Agriculturist* by "Aunt Sue": Take an empty champagne bottle, [we suppose any other would answer.—Ed.] cork it, push it into the leg of a stocking, and tie a string round the stocking at each end of the bottle so that it will fit the bottle tightly. Now baste your collar on to the stocking; the more carefully basted the edges are, the greater will be your success. Carry the collar round and round the bottle, allowing it to retain its shape easily. Soap well, and let it soak over night: rinse with hot water in the morning, and allow it to *dry on the bottle;* when taken off it will look as good as new, and need no ironing.

Fresh Air and Warm Air, at a Saving of Expense.

Many readers of the *Agriculturist* inquire about ventilation, heating of houses, economical fuel, etc. To satisfy them and exhibit the principles of economical heating and ventilation of dwellings in few words, the accompanying engravings have been prepared. The first represents a room heated by an open fire; the second, by a stove; the third and fourth by a hot air furnace, the heated air entering by the fireplace. In each case the light shades or clear part indicate the warm air; the darker shadings are the cool or cold parts of the room; and the figures indicate approximately the temperature by a Fahrenheit thermometer. Warm air is light, cold air is heavy, and the warm air floats *over* the cold. The air in any heated room is warmer at the top than near the floor, and is divided into strata, which though not so definite as we have drawn them, are still of about the same temperature at any given hight all over the room away from the disturbing

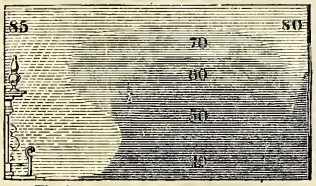


Fig. 1.—ROOM HEATED BY OPEN FIRE.

influences of windows, doors, or the fireplace. These strata are often seen in a still room when the fire is first made in a stove and it smokes a little, especially after the room is somewhat warmed. The smoke will be seen to arrange itself in horizontal sheets. The same is often seen in cold weather, when a man sits quietly smoking near a closed window. The air of the room is chilled by contact with the glass and flows downward, producing a current and drawing down more of the warm air from the top of the room. The smoker's fumes are entangled in these currents, become of a temperature, and consequently of a specific gravity, like that of some of the air strata in the room, and so float out into the room, maintaining almost a perfect level, as a thin sheet of smoke. In rooms heated and ventilated in the usual way, a person sits for hours after the fire is made, with his head in a comfortable temperature, and his feet very cold. Many a room heated by an open fire is so hot close to the fire that women's dresses are in danger of scorching, while back, away from the fire, ice will hardly melt in a pail of water in all day. The same trouble is more or less

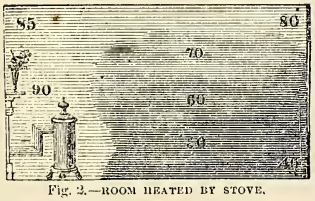


Fig. 2.—ROOM HEATED BY STOVE.

experienced in all rooms where there is not a very perfect ventilation. The fire is increased and an immense quantity of fuel consumed to warm the room, while through many cracks cold air comes in, and from the cold walls and windows the air is constantly chilled and poured down upon the floor. There it lies, chilling the feet, and unaffected, unless it is stirred up by the opening of a door or the sweep of a crinoline, when the exclamation is elicited. "What a stream of cold air you bring with you." This state of things would be very pleasant if we were only so constructed as to walk on our heads and sit on our shoulders, for cool heads and warm feet are very desirable:—but this is exactly the way we do not walk and sit.

The usual ventilation which a builder will introduce into a house, if the owner insists upon having any, is simply to make holes into an independent flue near the top of the room, which may be opened or shut. It needs no argument to show that though opening a hole in the top of the room might cause fresh air to flow into the room, it

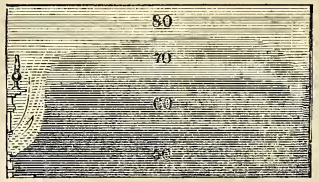


Fig. 3.—ROOM HEATED BY HOT AIR FURNACE.

would be at the expense of the warmth, for the hottest air would be drawn off, leaving its place to be supplied by cold air. In summer this furnishes agreeable ventilation, if the flue draws. In winter we need to have the cold air withdrawn, so that the warm air can be more diffused through the room. To effect this, obviously the ventilator must be near the floor, and it is much better if it be in the floor. It should also be in the coldest part of the room, as shown in figure 4, where the arrows indicate the flow of the cold air from near the floor into the "register." The air-trunk beneath the floor lies between the floor joists, if possible, and communicates with a flue in the chimney which is warmed by proximity to some heated flue. Rooms thus ventilated, in whatever way they may be heated, are much more economically warmed than others. They are more comfortable, for a pleasant temperature pervades the room, there being often less difference than we have indicated between the top and bottom of the room. Mr. J.

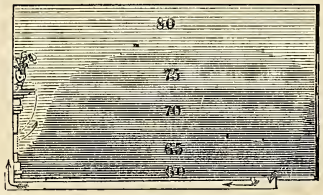


Fig. 4.—HEATED BY HOT AIR AND VENTILATED.

L. Lockwood, of Fairfield Co., Conn., has introduced this plan into his dwelling house very thoroughly, and with great satisfaction. The chimneys in his house are all built with ventilating flues communicating with all the principal rooms. He finds the saving of fuel very great.

Suggestions on Drying Fruits, etc.

Mrs. D. Garrigus, New Haven Co., Conn., writes to the *American Agriculturist:* "Fruit time is here, but sugar is so high that it will not pay to preserve much in the old-fashioned way. All the small fruits are excellent dried in sugar. To do this; remove the stones from plums, cherries, etc.; take 4 oz. of sugar to 1 lb. of fruit, cook a few minutes, spread them on earthen plates, and dry in the oven. If the fruit is juicy, as cherries for example, let it remain in the liquor over night after cooking, then in the morning drain through a colander and dry. I always have sprinkled a little sugar among the fruit when I packed it away in jars, but this may be omitted this season.———I make fruit cake by using cherries (the common red ones are the best) for raisins; huckleberries for Zante currants; and plums for citron.

"I think dried tomatoes are better than any canned or bottled ones I ever ate. I prepare them thus: Scald and skin the tomatoes, cook as dry as possible without burning; then spread on earthen plates, and dry in the oven. When required for use, rinse in cold water, let them soak in warm water an hour or so, cook a few minutes, and season to taste. Of course they will stick together, and want to be picked in pieces before soaking. They will keep, hung up in little sacks. If wanted to send to the soldiers, they are packed and transported with much less trouble and expense than bottles or cans Tell your readers while drying sweet corn for winter use, not to forget the snap beans and green shell beans. Prepare as if for cooking, scald in boiling water, and dry in the sun; by this simple means one can have succotash in winter almost as good as summer."

Sundry Domestic Notes.

Prepared for the Agriculturist by Molly Greenfield.

Chairs.—Some time ago somebody said "cut off the back legs of your chairs to make them more comfortable." Don't do it, unless you are of those poor people who have no babies in the house. Have pity on the little climbers' heads; they get bumps enough any way, without pulling the chairs over backward so easily. Have the seats of the chairs made at the proper inclination, but *don't* cut off the back legs.

A Comfort.—One of the workmen on the street came into our yard the other day. He was suffering from the sun's intense heat. I suggested that he put wet hollyhock leaves in his hat, which he did. It was a relief, he said "first-rate." Perhaps it will be a hint to others who have never tried wet leaves. Father says "go without a hat to keep the head cool." That's an odd way, and every one might not like it, or find it as effectual as he does.

Little Savings and Little Wastings.—"Trifles make the sum of human things." A "penny saved is two pence earned," says Poor Richard. It is well then to look to the little savings, and avoid in household and farm economy little wastings, which with careless managers are continually occurring. Don't throw away the ashes, leached or unleached; they are a valuable fertilizer. And, speaking of ashes, how handy it is always to have a leach ready for use, a good substantial affair, not a tumble-down old barrel—always to be able to have a supply of good lye for washing, cleaning, or making soap. Does every housekeeper know that it is convenient and economical to have a tub of strong lye to throw soap-grease into, through the summer, thus preserving it from the flies, and making soap without boiling? Have a care to save all your waste paper, it is worth from 4 to 8 cents per pound. Save all the rags, the best of them for mattresses, cushions, rugs, and carpeting, and all you can use no other way, for the paper-rags. Hang a small bag in a very convenient place, to receive all the shreds from the sweeping, etc. Let the children make patchwork quilts again of bits of calico; and of bits of silk a pretty cover for the top of a home-made work stand may be pieced up. Make aprons of the back breadths of calico dresses, when the rest is worn out. Put the abandoned old shoes and all other waste animal matter on the compost heap; also slops which the cow and pig will not eat. Mend the broken crockery if you can, for kitchen use. Don't let fruit go to waste—there is a market for surplus dried fruit, and the soldiers can find use for all you can spare them. When making preserves, put the rinsings of your kettle in a cask or jug of molasses and water for vinegar. Take care of all the ripe tomatoes. Many are sometimes wasted on the ground. Preserve, pickle, make catsup, dry, salt down in brine; don't let the last freeze. Feed out any that are left, or wash out the seed, keeping varieties distinct, and sell it. Green tomatoes are good in various ways, but probably not very wholesome.—Sugar is high this summer, and ladies make jelly with half the usual amount—it is very nice for cake. Put up all the fruit you can in glass cans.—Be careful of fresh meat in warm weather. Sour milk is good to keep it in, or you can hang it down in the well. After it is cooked, if you have no safe, keep it in the stove oven, when the stove is cold, and the flies will be less likely to touch it. Use your own ingenuity in

disposing of the cold pieces, and do not be confined to cook books.—Don't let bread mold; work up the pieces into puddings and pancakes; make baked Indian pudding of cold hasty pudding, it is good.

—o—

Hints on Cooking, etc.

Indian Corn Cake.—Contributed by "E. M. W." Litchfield Co., Conn. Mix together 2 cups of flour, 1 of Indian meal, 2 teaspoonfuls cream of tartar, 1 teaspoonful soda, and a little salt; add to this 1 egg and 2 tablespoonfuls of sugar beaten together, 2 cups of milk, and a piece of butter the size of an egg. Bake until it is thoroughly cooked through.

Baked Indian Pudding.—Contributed to the *Am. Agriculturist* by "Young Housekeeper," Harlem, N. Y.: Scald ½ pint Indian meal with 1 pint of boiling water, or milk, which is better add 1 large tablespoonful of wheat flour mixed with another pint of cold milk, 1 tablespoonful of ginger, 1 cupful molasses, 1 tablespoonful butter, or a small piece of suet chopped fine. Add raisins if liked, when the pudding has been baking about ten minutes. Bake thoroughly.

Baked Indian Pudding.—Contributed to the *American Agriculturist* and highly recommended by "Ectus," Milan, O.: Mix 3 pints Indian meal, 1 of wheat flour, 2 of sweet milk, 1 of sour milk, 1 cupful of molasses, 1 tablespoonful of salt and 1 teaspoonful of saleratus. Bake 3 hours.

Blackberry and Apple Pudding.—Sent to *American Agriculturist* by Mrs. E. Randall, Wayne Co., Pa.: Mix 1 quart of sour buttermilk, 1 teaspoonful saleratus, a little salt, and flour enough to make it rather stiff. Roll out, cover with blackberries, roll up, put in a buttered basin and steam 1½ hours. Serve with sugar and cream. Tart apples may be used instead of berries

To Remove Iron Rust from White Stuffs.—Dissolve oxalic acid in warm water; spread the linen in the sunlight and apply the acid to the spot, which will very soon disappear. It will remove many other stains. As the acid is a poison, it must be kept from children's reach. If too strong, it will injure the fabric itself. It should be well washed out almost as soon as applied.

TOO SICK TO GO TO SCHOOL.—*Engraved for the American Agriculturist.*

BOYS & GIRLS' COLUMNS.

John Maynard, the Hero.

The story of John Maynard, the Lake pilot, illustrates as noble heroism as was ever shown on the battle field. He was guiding a steamer from Detroit to Buffalo. When she was seven miles from the latter place there came the fearful cry of "fire!" and thick clouds of smoke rolled up from the hold. By direction of the Captain the passengers crowded to the forecastle, and Maynard remained at the helm, where soon the flames came roaring around him. The Captain shouted to him through his speaking trumpet "John Maynard!"—"Aye, aye, Sir." "Are you at the helm?"—"Yes."—"What course is she steering?"—"Southwest." "Direct her course to the southeast and gain the shore." Some moments afterward the Captain shouted again, "Can you hold out five minutes longer?" "Yes with the help of God!" answered John Maynard. His white hair is burnt on his head; one of his hands is already useless; with one knee upon the deck, his teeth and one strong hand upon the wheel, the old man remained firm as a rock. The vessel touches the shore, all the crew are saved, all but the noble pilot, who fell dead upon the burning deck. Such a glorious death wins a true martyr's crown, and is worth more than a century of aimless life.

This Detected Truant is learning by experience the truth of the adage, "Honesty is the best policy." Not wanting to go to school, he is playing sick, and his kind mother has called in the Doctor, either fearing he will be seriously ill, or perhaps wishing to cure him of a worse disorder, want of truthfulness. No wonder the boy puts on such a rueful countenance. He is thinking of the bitter doses he may be compelled to take, which may make him sick in earnest; the doctor's severe look brings him no comfort, and more than all, his conscience is busy telling him how meanly and foolishly he has acted. He is truly in a sad plight, let us hope he will find his way out of it by the only safe and honorable means. Let him "own up," like a man, ask the forgiveness of his mother, and resolve not to place himself in such a fix again.

A Boy's Gift to the Soldiers.

A lady in California communicates the following incident to the *Agriculturist*: Rev. Dr. Bellows, President of the Sanitary Commission, now in California, was about to deliver a lecture in behalf of the Commission, at Marysville. In the afternoon before the lecture, a ring was heard at his door, and a little boy was admitted bringing with him a white chicken. "Dr." said he "I want to give this to the soldiers, it will make them two plates of soup." The Doctor received it with thanks on behalf of the soldiers, and commended the boy for "doing what he could." In the evening the chicken was taken to the lecture, and at its conclusion the circumstances were related, and the boy's gift was put up for sale at auction. The bidding was lively, and the chicken was sold and re-sold until the sum of $460 in gold, equal to near $1,200 in currency, was realized for the Sanitary Commission, and the boy was delighted to find how much soup his chicken would furnish to the soldiers.

Birds in Battle.

The New Albany Ledger relates that at the battle of Resaca, Ga., a mocking bird perched on the top of a tree in the midst of the fight, and imitated the whistling of bullets and other noises of battle. At a recent engagement the following singular incident occurred. During a fierce cannonade, a small bird came and alighted upon the shoulder of an artilleryman who was serving one of the large guns, where it remained notwithstanding his violent motions in loading the piece. When the gun was discharged, the frightened little creature would run its beak and head up under the man's hair at the back of his neck, and when the report died away, would resume its place upon his shoulder. One of the men took the bird in his hand, but as soon as it was released, it immediately flew back to its perch on the gunner's shoulder.

Amusing and Fortunate Answer

A gentleman in Berlin, Prussia, relates that in a Sunday School recently established there, among other questions, a clergyman asked the children, "Why were Adam and Eve turned out of Paradise?" Up jumped a boy, and with an eager countenance, as though he was certain he knew it, answered, "Because they could not pay their rent." On inquiry it appeared that his parents had been repeatedly turned out of doors for this cause and that they were now in danger of the same trouble. A collection was taken and they were soon relieved

The Introduction of Glass Staining.

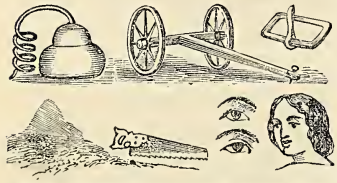
A reader of the *American Agriculturist*, connected with a Lyceum in New-York City, in speaking of the benefits to be derived by such associations of persons for mutual improvement, related the following incident: When a society of this kind, known as the Mechanics' Institute was first started, some of those connected with it appeared to greatly hinder its usefulness, by introducing topics for discussion in which very few were interested. Among these was the subject of the art of staining glass, which had attained high perfection in Europe, but was not yet introduced into this country, all such ware being imported. A thoughtful young man present was led by the discussion to further investigation and experiment, and at length he started the business here. It proved successful, made him wealthy, and was the commencement of an extended manufacture which is beginning to compete with that of foreign nations. It is said that the first of his work executed and used here, was an ornamental lantern put up in front of the well-known Florence's Hotel formerly kept for many years on Broadway, in this city.

OLD BUT GOOD.—"Did the fall hurt you?" said one hod-carrier to another who had fallen from the top of a two-story house. "Not a bit, 'twas the sudden stoppin' that hurt me".....Said another: "One of my boys don't know nothing, and the other does." Which knew the most?....Savings Banks usually stipulate that if desired by them they may require two weeks notice before returning deposites. A newly arrived emigrant having a little spare money asked his friend, "If I put my money in the Savings Bank, when can I get it again?" The answer of his friend was: "Sure an' if ye put it in to-day, you can get it to-morrow, by giving two weeks' notice." ...."Get up, husband, there's a robber in the house." To which he replied. "Don't molest him. If he is smart enough to find any thing valuable in this house, we will then take it from him, and so make something."

New Puzzles to be Answered.

No. 96. *Illustrated Rebus.*—A very common proverb.

No. 97. *Word Puzzle.*—Contributed to the *American Agriculturist*, by S. R. Riley, Allen Co., Ohio. 15 letters of the alphabet, compose seven nouns in daily use, all having the same termination, and all of which are of equal length. What are these seven curious nouns?



No. 98. *Illustrated Rebus.*—Usually found to be true.

No. 99. *Double Geographical Acrostic.*—FIRST and SECOND, Capitals in the United States. 1, A mountain in Asia; 2, A county in New-York; 3, A kingdom of Europe; 4, A town in twenty six of the United States; 5, A river in Holland; 6, A city in Canada; 7, A river in Maine.

Answers to Problems and Puzzles.

The following are answers to the puzzles in the August number, page 247. No. 93. *Illustrated Rebus.—S in B R ings fin A l ru in A nd in F A M Y;* or, Sin brings final ruin and infamy. No. 94. *Geographical Question.—Jefferson.* No. 95. *Illustrated Proverb.—Misfortunes seldom come single.*

The following have sent correct answers up to August 13th. Sherwood, 92; Frank Beagle, 92; "D. W.", 92; F. A. Willard, 92; Oliver Coombs, 92: H. J. Mitchell, 92; Aug. Reifsteck, 92; Mary Green, 92; Nettie Spink, 92; Ann Eliza Harvey, 92; Daniel S. Carver, 92: John B. Winslow, 92; Edgar Holcomb, 92; Jenny C. E. Livingston, 92; Georgie and Mac, 92: George G. Parker, 92; Elihu Cox, 92; Emma and Mary Longwell, 92; J. N. Miller, 92; M. A. McClellan, 92; R. F. Maxwell, 92; Russell G. Byron, 92; "O. R.", 92: Lillie G. Paxton, 93; J. Cottrell Righter, 93, 94, 95; Carrie E. Dewing, 93; "Affa", 93; P. S. Libido, 93; Maggie A. Grigg, 93; E. P. Harnish, 93; Mrs. Julia A. Schoff, 92; D. Gibbony Cantner, 93; James Dilts, 93; G. W. Harrison, 93; Elma M. Taber, 93; David H. Trenkey, 93: Peter E. Waters, 93.

The Power of Imagination.

Mr. Charles Babbage relates the following anecdote of the poet Rogers and himself:—"Once at a large dinner party, Mr. Rogers was speaking of an inconvenience arising from the custom, then commencing, of having windows formed of one large sheet of plate-glass. He said that a short time ago he sat at dinner with his back to one of these single panes of plate-glass; it appeared to him that the window was wide open, and such was the force of imagination that he actually caught cold. It so happened that I was sitting just opposite to the poet. Hearing this remark, I immediately said, 'Dear me, how odd it is, Mr. Rogers, that you and I should make such a very different use of the faculty of imagination. When I go to the house of a friend in the country, and unexpectedly remain for the night, having no night-cap, I should naturally catch cold. But by tying a bit of twine tightly round my head, I go to sleep imagining that I have my night-cap on, consequently I catch no cold.'

(Business Notices, One Dollar and Twenty-five Cents per Line of Single Column.)

The AMERICAN AGRICULTURIST for February, 1864, page 37, has the following:

"**War Maps.**—We have received from H. H. Lloyd & Co., several very good maps, among them one which shows at a glance, and in an interesting form, the progress of the war, the original and the present territory occupied by the rebels, the battle fields, etc. Notice that this is H. H. Lloyd & Co., 21 John-st.,—a prompt and responsible House, we have every reason to believe."

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Heroes Slain.
Our Naval Heroes.
The Picket.
The Traitor.
Basket of Fruits.
Flowers.
Choice Fruit.
The Dove.
Lieut. Gen. U. S. Grant.
Maj. Gen. George G. Meade.
Maj. Gen. George B. McClellan.
Maj. Gen. B. F. Butler.
Maj. Gen. W. S. Hancock.
Maj. Gen. W. T. Sherman.
Maj. Gen. A. E. Burnside.
Miss Maj. Pauline Cushman.
Lincoln and Johnson.
Ten Rebel Generals.
Catching a Guerrilla.
Crucifixion and Resurrection.
Sermon on the Mount.
Christ Blessing Little Children.
Kearsage sinking the Alabama.
Seeing the Elephant in New-York.
Politicians Measuring Lincoln's Shoes.
The Aquarium.
George Washington.
Martha Washington.
Beauty and Luxury.
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" " 1 " 2, $1.00 " $10 " $ 80 per 100
Creveling " 2 yrs., very strong, 75c. each; $7.50 per doz.; $50 per 100
" " 1 " " 65c. each; $6.50 per doz.; $40 per 100
" " 1 " " 50c. each; $4.50 per doz.; $30 per 100
Delaware " 1 " No. 1, $1.00 per dozen; $25 per 100
" " 1 " 2, $3.00 per dozen; $15 per 100
" " 1 " 3, $2.50 per dozen; $12 per 100
Concord " 2 "strong layers, $3.00 per dozen; $15 per 100
" " 1 " No. 1, $2.50 per dozen; $12 per 100
" " 1 " 2, $2.00 per dozen; $10 per 100

Hartford Prolific, Clinton, Allen's Hybrid, Rebecca, Diana, and others, at LOW RATES. The above vines are all grown in OPEN AIR, and I warrant them TRUE TO NAME. Orders must be accompanied by cash. J. W. CONE,
Norfolk, Conn.

70,000 Concord Grape Vines.

No. 1. One year old, $10 per 100; or $90 per 1,000.
No. 2. $8 per 100; or $70 per 1,000; 10,000 extra fine, trans planted, 2 years old.

Concord Grape Vines.
$20 per 100; or $180 per 1,000.

Delaware Grape Vines.
No. 1. One year old; $25 per 100.
No. 2. One year old; $15 per 100.

Union Village Grape Vines.
One year old; 50 cts. each.
Strong Layers; $1.50 each.

Rodgers' Hybrids.
Nos. 4, 15, 19, we have fruited the past three years, and they have done finely.
We have also Nos. 1, 3, 9, 33, 22, 43. Price $9 per dozen; or $50 per 100. GEORGE SEYMOUR & CO.,
South Norwalk, Conn.

Adirondac Grape Vines.

1 year old, No. 1, very strong, $3; No. 2, strong, $2
2 " " 1, " " $3; No. 2, $1

All ent back to 3 or 5 eyes. No inferior vines will be sent out by me. Purchasers can rely on the quality of my vines being unsurpassed. Will be forwarded in sealed boxes by express, without charge for boxes. Small orders will be securely packed and sent by mail, pre-paid, when so ordered.

The two great grape Exhibitions held last autumn in New-York and Cleveland, awarded to the Adirondac, the prize for the "BEST NATIVE GRAPE OF ANY KIND, QUALITY TO RULE." The discovery and introduction of the Adirondac grape is an event of the highest importance to grape growers, and the greatest advance yet attained in native grapes. Its peculiarities are, extreme earliness, large clusters and berries, tender and thin skin, melting without any perceptible pulp, and of the most delicate and delicious flavor, reminding one of that splendid Hot-house grape the "Black Hamburg." Also first class vines of the following varieties, at the lowest rates, viz.: Allen's Hybrid, Creveling, Concord, Cuyahoga, Delaware, Diana, Hartford Prolific, Iona, Israella, Maxatawney, Northern Muscadine, Ontario, Rodgers' Hybrid, Nos. 1, 3, 15, 19, To Kalon, Sherman, Yeddo. Liberal discount to Nurserymen and Dealers. Price lists and trade circulars forwarded on application. JOHN W. BAILEY,
August, 1861. Plattsburgh, Clinton Co., N. Y.

Messrs. FLEMING & DAVIDSON, are my authorized agents for New York City.

GRAPE VINES.

My stock this season comprises all the valuable hardy varieties, and has been produced with the greatest care, to secure plants that will give uniformly the best results. The great superiority that my vines have exhibited throughout the country, warrants the confident belief that I can, as heretofore, furnish the best and cheapest vines that can be offered.

The introduction of the Delaware vine was an event of the utmost importance in American Grape Culture, in giving us a most hardy and enduring vine, superior to all others, in habit and character, as well as in the surpassing quality of its fruit, which fitted it to become "the ednenator of American taste," to use the apt expression of Mr. Peter B. Mead. Until shown by the practical test of the Delaware, the great excellence attainable by the native grape was not known. From the extensive dissemination of this variety, the American taste has already become, to a considerable extent, educated, and ready to appreciate and accept those only that are capable of yielding the highest degree of refreshing enjoyment.

Allen's Hybrid fulfills this requirement for the garden, for which it possesses a very good degree of hardiness, an exception that belongs probably to the Israella, only the latter has not been quite so extensively tested, having been one season less in bearing, but with the same constancy and excellence of habit.

The ISRAELLA is of large size; bunches large and compact, very dark in color, ripening as early as the Hartford Prolific, tender to the center—of very remarkable and peculiar excellence, for full account of which see price list.

Price list, (or two, if requested,) with full account of these new kinds, sent on receipt of stamp. When requested, a proposition will also be sent for the formation of clubs by which all of the members can obtain the vines at wholesale prices. For notice of Catalogues and Manual of the Vine, see advertisement in Agriculturist, August 1st.

C. W. GRANT,
Iona, near Peekskill, Westchester Co., N. Y.

True Delaware Grape Vines.

From the original vine. Also fine plants of Concord, Creveling, Iona, Israella, &c. Send stamp for priced list of 75 kinds, to GEO. W. CAMPBELL, Delaware, Ohio.

NOTICE TO SHIPPERS

OF

Tallow, Lard, Bacon, Pork, Beef AND

GENERAL WESTERN PRODUCE.

The undersigned pay their particular attention to the sale of the above articles, and

Consignments sent to them will be

PROMPTLY DISPOSED OF AND

QUICK RETURNS MADE

on very advantageous terms.

We issue a WEEKLY PRICE CURRENT of the above articles, which we mail gratis to those sending their address.

ABRAM KNIGHT & SONS,
92 Water-st., New-York City.

Italian Queen Bees.

From the Apiary of Dzierzon, which, at the last European Bee Convention, was unanimously declared to be the ONLY apiary in Europe from which RELIABLY PURE stock could be obtained. As I have an entire apiary of this stock, bred carefully for upward of four years, and shall rear and guarantee the PURITY, FERTILITY and safe delivery of queens when sold, purchasers may RELY upon them.

A limited number of these Queens will be supplied this season at $10 each. Orders will be filled in strict rotation with their reception. Circulars sent on receipt of a 2 cent stamp.

RICHARD COLVIN, Baltimore, Md.

Brahma Pootra and Leghorn Cocks for Sale.—Spring birds, fine for crossing. $2 50 each, delivered in New-York. J. C. THOMPSON, Tompkinsville, (Staten Island,) N. Y.

Thorndale South Downs.

Having recently purchased from Samuel Thorne, Esq., his entire flock of celebrated South Down Sheep, I am enabled to offer for sale about 75 head of this favorite breed, comprising 50 Ewes of various ages, and 25 Rams (yearling and lambs). All sheep sold will be delivered at the boat or railway free of charge.

Having previously purchased of Mr. Thorne, the celebrated Imported Ram, Archbishop, bred by the late Jonas Webb, Babraham, England, I take pleasure in announcing that he is now reunited to the flock to which he has already given so much reputation.

Millbrook, Washington Hollow, Dutchess Co., N. Y.

SUPERIOR FARM LAND.—20,000 Acres at low prices and accommodating terms.—Franklinville and Lake Tract.—Gloucester County, New-Jersey, 25 miles south of Philadelphia on Railroad running from Philadelphia and Camden to Cape May. In lots to suit purchasers. Circulars with reports of Solon Robinson, Hon. Wm. Parry, and others, with full information, sent free by addressing JOHN H. COFFIN & CO., or WILLIAM ARIOTT, Franklinville, New-Jersey. Also Improved farms from 20 Acres upward.

Prairie View Farm for Sale.

A beautiful farm of 160 acres situated near the Fox River, in Kendall Co., Ill. Substantially improved with good fences, house, barn, fruit, &c.

A fine Durham Stock, Horses, Tools, and Household Furniture for sale with the farm if desired.

Address P. PORTER WIGGINS,
Oswego, June 30th, 1864 Oswego, Kendall Co., Ill.

"MARYLAND FARMS."

We are agents for the sale of nearly

Four Hundred Farms

in this State. A printed list of them can be obtained by sending postage stamp to

R. W. TEMPLEMAN & CO.,
No. 18 Lexington-st., (up stairs) Baltimore City, Md.

Bruce's Concentrated Manure.

Those who have used the above valuable fertilizer the past year, give it the preference over

No. 1 Peruvian Guano, Bone, or Poudrette.

In the year 1863, some **fifty tons** were sold. Last year orders came in to the amount of **four hundred tons**, only half of which could be filled. This year we shall manufacture **ONE THOUSAND TONS.**

Its "component" parts are:

40 per cent. of Animal fibre and Blood.
40 per cent. of pure Ground Bones.
20 per cent. of Absorbents.

The absorbents are Charcoal and Gypsum.

Price **$35 Per Ton**, packed in barrels 250 lbs. in each.

Send for Circular. Send your orders to

GRIMES BROTHER & CO.
58 and 60 Courtlandt-st., New-York.

Russell's Great Prolific STRAWBERRY.

I have now growing a large stock of this justly **celebrated and unequalled variety**, and having taken great care of the runners this season, I can fill orders with unusually strong and well rooted plants. Of the very large number of this kind sent out by me last spring, there was scarcely a failure, and the very fine order in which they were received by my customers in the most distant States and Territories, gave, as per letters sent me, entire satisfaction, many saying they were the best plants they had ever received.

Sent by mail postage paid,	20	plants for	$1 00
"	100	"	$3 00
" Express at	100	"	$2 50

Large orders at less rates.

I have also a fine stock of all the **valuable** new and old varieties of **Strawberries, Raspberries, Grapes, &c.**, and those desiring to purchase are requested to send for my price list. Correspondence solicited.

EDWIN MARSHALL,
Po'keepsie Small-Fruit Nursery
Po'keepsie, N. Y.

DELAWARE VINES

AT

LOW PRICES.

PLANTERS, who are forming Vineyards, and

NURSERYMEN who wish plants for stock, will find it their interest to examine the one-year-old plants of

PARSONS & CO.,

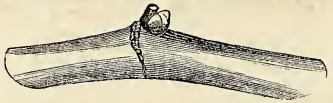
Of which they offer

200,000

At the following low prices:

No. 1. $25 00 per 100.—$200 00 per 1000.
No. 2. $15 00 per 100.—$125 00 per 1000.
$1000 00 per 10,000.
No. 3. $12 00 per 100.—$100 00 per 1000.
$750 00 per 10,000.

These plants are produced from cuttings of bearing vines. The accompanying sketch of one of them will show that



they are not the mere straws so often employed, but mostly of large size. None of them are propagated either by layering or grafting, and they are so grown as to ensure an abundance of fibrous roots and thoroughly ripened wood.

The testimony of those who have purchased them for the last two years is of the most favorable character.

In consequence of the low price, their stock of Delawares has for two years been bought up early in the autumn by a few persons. The proprietors wish them more widely scattered, and hope therefore, that those who desire to purchase, will send their orders early.

In consequence of the great difficulty in growing the Delaware the first year, nurserymen will find it their interest to purchase largely to plant for stock.

The Proprietors can also furnish

100,000

other **HARDY GRAPES**, including **Concord, Diana, Creveling, Iona, Allen's Hybrid, Adirondac,** and other new sorts.

REMONTANT ROSES

On their own roots, and not propagated by budding or grafting in any root, at $25 per 100.

Address

PARSONS & CO., Flushing, N. Y.

Maxatawney,

The **Best Hardy White Grape.** Good, strong plants from bearing wood, $30 per 100; 2nd size, $12 per 100.—**Delaware,** a large stock from bearing wood, 1st size, $20 per 100; 2nd size, $12 per 100; by the 1000 at lower rates. Allen's Hybrid, Rogers' Nos. 4, 15, 19, Union Village, Cuyahoga, Cristine, Concord, Hartford Prolific, Ontario, **true** Creveling, all at the lowest rates by the dozen, 100, or 1000.

JOSEPH KIFT, Westchester, Pa.

Send for a List of Prices.

Grape Vines.

The readers of the Agriculturist will bear in mind that ANDREW S. FULLER, of the BROOKLYN NURSERIES, keeps constantly on hand all the desirable varieties of grape vines, and will sell as low as equally good stock can be purchased elsewhere. Send for a Catalogue to

ANDREW S. FULLER, Brooklyn, N. Y.

Sing Sing Grape Vines.

The opinion of our customers as to the fine quality of vines sold them is our best recommendation to others.

Our stock this year is larger, and in all respects of better quality than we have ever offered.

Our long experience and our great facilities for propagating enable us to put into market superior plants at common price.

Every vine sold from this establishment is warranted true to name.

Send for Price List or Catalogue.

J. F. DELIOT & RYDER, Vine Growers,
Sing Sing, N. Y.

Strong Concord, Delaware, Rogers'

Hybrid, Allen's Hybrid, Creveling, Hartford Prolific, Diana, Maxatawney, Adirondac, and Iona, at low prices. We call particular attention to Rogers' Hybrid, No. 19, as the largest, earliest, and best hardy black grape yet introduced. It is a cross between the Black Hamburg and native, combining the fine flavor of the foreign with the hardiness of the native. Our vines are produced from the wood of the original vines of which we have the entire stock.

Salem, Mass., Nov. 26, 1863.

[$75.] Received of Wm. Perry & Son, seventy-five dollars for all the wood of my No. 19, Rogers' Hybrid. E. S. ROGERS.

Descriptive catalogues containing a cut of Rogers' Hybrid sent to all applicants enclosing stamp to prepay postage.

Address WM. PERRY & SON, Bridgeport, Conn.

FROST & CO.,

Genesee Valley Nurseries,

ROCHESTER, N. Y.

Parties who desire to purchase **first quality Standard or Dwarf Fruit Trees, Small Fruits, Ornamental Trees, Shrubs, Plants, &c., &c.,** in large or small quantities, are solicited to inform themselves of our stock and Prices.

Our Nursery contains nearly **FOUR HUNDRED ACRES,** which enables us to fill orders even of the most extensive character, while particular attention is given to orders amounting to small sums.

Our stock will be supplied at the most **favorable rates.**

The following **Catalogues** with prices are furnished on application upon receipt of five cents for each.

No. 1 and 2. **Descriptive priced retail** Catalogue of Fruits, Ornamental Trees, Plants, &c.

No. 4. **Wholesale priced Catalogue** of Fruits, Ornamental Trees, &c., for nurserymen, dealers and others, who wish to buy in large quantities for the Autumn of 1864.

Address FROST & CO., Rochester, N. Y.

CREVELING GRAPE VINES!—20,000 Creveling vines for sale this fall, one year old, strong plants grown out of doors from strong 6 eyed cuttings. Price per dozen, $6.00; per 100, $35. Cash to accompany order, if to C. O. D., extra charge to cover such expense; no charge for packing. F. F. MERCERON,
Catawissa, Pa.

INGERSOLL'S IMPROVED

HORSE AND HAND POWER

HAY AND COTTON PRESSES.

These machines have been tested in the most thorough manner throughout this and foreign countries to the number of over 1200.

The HORSE POWER is worked by either wheel or capstan, and in many respects possesses unequalled advantages. We invite those wanting such machines to write for a catalogue containing full information with cuts, prices, &c., or call and examine personally.

Orders promptly attended to, by addressing
INGERSOLL & DOUGHERTY, Greenpoint, Kings Co., L. I.

Sanford & Mallory's

FLAX AND HEMP DRESSERS

are no longer an experiment. Over 200 No. 1 Brakes have been sold and are in

PRACTICAL USE.

A pamphlet will be sent free of charge by writing,

JOHN W. QUINCY, AGENT,
No. 98 William-st., New-York

TESTIMONIALS.

Extracts from Letters

RECEIVED DURING THE PAST YEAR.

Nov. 11, '63.—"I am running the machine I purchased of you with entire satisfaction and success." "I have tested the machine to such a limit as to be able to state its benefits are almost incalculable, especially on half or too much rotted flax." H. W. FOWLER, Hoosick Falls, N. Y.

Oct. 12, '63.—"We have now been running our mill for a few days, and everything works well—the Brake does its work splendidly, as I knew it would." FOWKS BROTHERS, Cocymans, N. Y.

Jan. 4, '64.—"We have been running the Brake we purchased of you some time and like it very well."
C. & S. R. WRIGHT, Forest Lake, Penn.

Jan. 6, '64.—"The machine gives complete satisfaction. My yield of lint from straw by it exceeds the yield from any other mill. In what time can you send another machine."
H. W. FOWLER, Hoosick Falls, N. Y.

Jan. 7, '64.—"The No. 1 machine arrived at noon to-day, and we have it running; it works to a charm, and I think it will stand the work required of it—it is the right proportion. I am happily disappointed in this Brake. I think it the best thing I have seen. It will do as much, if not more, than the other, and is better on pulled straw by far than the larger machine; will yield ten per cent. more lint, and can be scutched sooner." JNO. L. BOORMAN, Homer, N. Y.

Jan. 14, '64.—"GENTLEMEN,—I purchased one of your No. 1 Brakes last fall, and am well pleased with it." "I finally made a personal examination of the operation of the machine and became satisfied in my mind that it was a great improvement, and ordered one immediately through Mr. Kirk. I have been threatening my knife shaft, and one Brake will not keep us going, and the boys have got an aversion to the old Brake; and in fact flax does not scutch uniform if we mix the two works together."
G. L. HUGHSON, Breakabeen, N. Y.

ODDENSBURG, N. Y., April 11th, 1864.

Messrs. Mallory and Sanford:

DEAR SIRS.—I have used three of your No. 1 Brakes in my Flax Mill at Waddington, St. Lawrence County, New-York, for the past season. They have given perfect satisfaction, and I regard them as the best Flax Brake ever invented. No person engaged in dressing flax can afford to use any other machine. I shall order three more machines this fall.

Yours truly, H. R. JAMES.

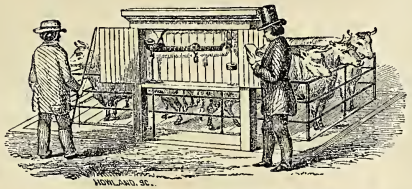
PATERSON, N. J., April 25th, 1864.

Messrs. Mallory and Sanford:

GENTS,—We received from John L. Boorman, of Homer, New York, a letter, bearing date of the 11th inst., in which he states the following in relation to your No. 1 Machine, "The No. 1 Machine works first-rate, and we run from 2,500 to 3,500 pounds pulled straw through it per day. I will have another one next year." Hoping the above may be of service to you, we are, gentlemen, yours most respectfully,
WM. G. & J. WATSON.

FAIRBANKS' STANDARD SCALES.

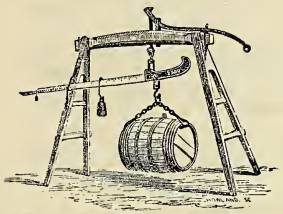
"A uniform standard of Weights, and a correct system of weighing, are subjects claiming the attention of every individual in the community."



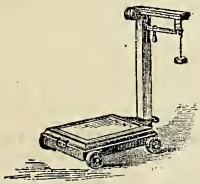
HAY, COAL, AND CATTLE SCALES.

In view of the great amount of property which, in the course of years, is weighed upon a single Scale, and of the fact that, in any ordinary business, a good scale will last during the life of the user, it is most obviously false economy to hazard the probability of getting an unreliable Scale, for the sake of a small saving in the first cost.

DORMANT WAREHOUSE SCALES.

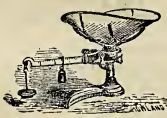


WEIGH MASTERS' BEAMS AND PATENT BALANCES.



PORTABLE PLATFORM SCALES.

UNION OR FAMILY SCALE.



COUNTER SCALE

ADAPTED TO EVERY BRANCH OF BUSINESS

Where a Correct and Durable Scale is required.

☞ These Scales are manufactured only by the Original inventors, and all others represented as Fairbanks' are mere imitations, of which purchasers should beware.

☞ They are extremely simple in construction, are made of the very best materials, by experienced and intelligent workmen, and under the strictest supervision of the inventors.

☞ They have been in constant use in all branches of business for thirty years, in all parts of the world, and, having been most thoroughly tried, are the acknowledged standard.

☞ They have taken more first premiums than all other Scales, and, what is of more practical value, have received the award of superior excellence by the vast numbers who have used them for many years.

☞ They are fully warranted not only strong and accurate, but durable; and the manufacturers, who are permanently established and fully responsible, will always be prompt to make this warranty good.

☞ They are, owing to the large experience and superior facilities of the manufacturers, offered at lower prices than other Scales of equal size and strength.

☞ They are made of all sizes and capacities, and adapted to all required uses, embracing more than a hundred different modifications.

☞ They are cheap, convenient, strong, accurate, and durable, their superiority in these respects having been proved by long use, and no pains will be spared to maintain, and, if possible, improve their quality.

A WORD OF CAUTION.

THE WELL-EARNED REPUTATION OF THESE SCALES has induced the manufacturers and venders of imperfect and cheap-made balances to offer them as FAIRBANKS' SCALES, and purchasers have thereby been subjected to *fraud and imposition*; and further, other manufacturers have *falsely* asserted that they have secured the services of valued superintendents and foremen from our establishment.

The subscribers have no controversy with *honorable* competitors, but regarding the perpetrators of the above frauds as pursuing a course alike *unjust* and *dishonorable*, they take this method to caution the public against their impositions. The patentees manufacture under their own personal inspection, and only at their factory in ST. JOHNSBURY, Vermont.

PRINCIPAL WAREHOUSES.

FAIRBANKS & CO., 252 Broadway, New-York.

FAIRBANKS, BROWN & CO., 118 Milk-st., Boston, Mass.

FAIRBANKS, GREENLEAF & CO., 172 Lake-st., Chicago, Ill.

FAIRBANKS & EWING, Masonic Hall, Philadelphia, Penn.

FAIRBANKS & CO., 246 Baltimore-st. Baltimore, Md.

Farmers, Countrymen, and Country Merchants

Can send their

Butter, Cheese, Eggs, Lard, Tallow, Beans, Hops, Flax, Cotton, Flour, Grain, Meal, Green and Dried Fruits, Furs, Skins, Poultry, Game, Provisions, Seeds, Sorghum, Wool, Potash, Tobacco, Oils, and other produce to

JOSIAH CARPENTER,

COMMISSION MERCHANT,

323 Washington-street, New-York.

Near Erie Rail Road Depot.

To be sold at the highest market price. Every shipper to him will receive his valuable Weekly Price Current of the New York Market free.

BOOKS FOR FARMERS and OTHERS.

[Any of the following books can be obtained at the Office of the *Agriculturist* at the prices named, or they will be forwarded by mail, *post-paid*, on receipt of the price. All of these books may be procured in making up a library. We indicate our opinion of their value by one or more Stars.] These prices are only good for orders sent previously to October 1st.

American Bird Fancier	$0 25
American Farmer's Encyclopedia	6 00
American Weeds and Useful Plants ... **	1 50
Allen on the Culture of the Pear	1 25
Allen's (R. L.) American Farm Book*	1 25
Allen's Diseases of Domestic Animals	1 00
Allen's (L. F.) Rural Architecture*	1 50
Barry's Fruit Garden ... ***	2 50
Bement's Poulterer's Companion ... **	2 00
Bement's Rabbit Fancier	50
Bridgeman's Fruit Cultivator's Manual	75
Bridgeman's Young Gardener's Assistant	2 00
Bridgeman's Kitchen Garden Instructor	75
Bridgeman's Florist's Guide	75
Brandt's Age of Horses (English and German) ... *	50
Breck's Book of Flowers ... *	1 50
Brown's American Poultry Yard	1 25
Buist's American Flower Garden Directory	1 50
Buist's Family Kitchen Gardener ... *	1 00
Barr's Vegetables of America ... *	1 50
Charlton's Grape-Grower's Guide	75
Cole's (S. W.) American Fruit Book ... *	60
Cole's Veterinarian	60
Dadd's (Geo. H.) Modern Horse Doctor	1 50
Dadd's (Geo. H.) American Cattle Doctor ... *	1 50
Dana's Muck Manual for Farmers	1 25
Downing's Cottage Residences	2 50
Downing's Fruits and Fruit Trees of America ... ***	3 00
Easwood on the Cranberry ... *	60
Employment of Women—By Virginia Penny ... *	1 50
Every Lady her own Flower Gardener	50
Fessenden's American Kitchen Gardener	25
Fessenden's Complete Farmer and Gardener	1 50
French's Farm Drainage	1 50
Field's (Thomas W.) Pear Culture	1 25
Fish Culture	1 50
Flint (Charles L.) on Grasses ... **	2 00
Flint's Milch Cows and Dairy Farming ... ***	2 00
Fuller's Grape Culturist ... ***	1 50
Fuller's Strawberry Culturist	15
Goodale's Principles of Breeding ... **	1 00
Gray's Manual of Botany and Lessons in one Vol. ***	3 00
Gray's How Plants Grow	1 00
Guenon on Milch Cows	75
Hall's (Miss) American Cookery	1 25
Haraszthy Grape Culture &c.	5 00
Harris' Insects Injurious to Vegetation, plain ... **	3 50
do. do. do. do. colored plates **	4 50
Herbert's Hints to Horsekeepers ... ***	1 50
Hints to Riflemen, by Cleveland	50
Hooper's Dog and Gun	25
Johnson on Manures	1 00
Kemp's Landscape Gardening	2 00
Langstroth on the Honey Bee ... *	1 50
London's (Downing's) Ladies' Flower Garden ... *	1 50
Lenchar's How to Build Hot-houses	1 50
Liebig's Lectures on Chemistry	50
Linsley's (D. C.) Morgan Horses	1 50
Manual of Agriculture by G. Emerson and C. L. Flint	1 00
Mayhew's Illustrated Horse Book ... ***	3 50
Mayhew's Illustrated Horse Management ... ***	3 50
McMahon's American Gardener ... *	2 50
Milburn on the Cow and Dairy	25
Miles on the Horse's foot	50
Mistakes of Educated Men ... **	60
Morrell's American Shepherd	1 25
My Farm at Edgewood ... **	1 75
National Almanac and Annual Record ... **	1 50
Norton's Scientific Agriculture	75
Our Farm of Four Acres. (paper 30c.) bound ... *	60
Onion Culture ... ***	20
Pardee on Strawberry Culture	75
Parsons on the Rose	1 25
Pedder's Farmer's Land Measurer	50
Phantom Bouquet, or Skeleton Leaves	1 50
Phin's Grape Culture	1 25
Quinby's Mysteries of Bee keeping ... *	1 50
Randall's Fine Wool Sheep Husbandry	1 00
Rand's Flowers for Parlor and Garden ... **	3 00
Richardson on the Dog	50
Richardson on the Hog	25
Robins' Produce and Ready Reckoner	75
Skillful Housewife	50
Smith's Landscape Gardening	1 50
Spencer's Education of Children **	1 25
Stewart's (John) Stable Book	1 50
Ten Acres Enough	1 25
Tobacco Culture ... ***	25
Todd's (S. E.) Young Farmer's Manual ... **	1 50
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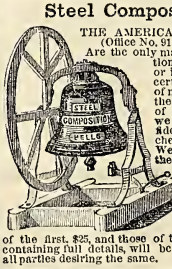

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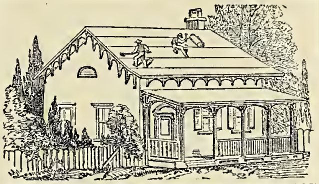

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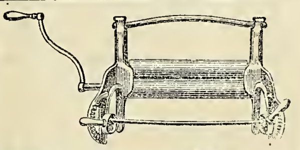

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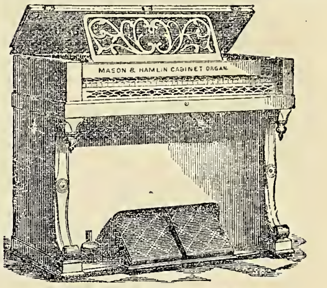

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Agricultural Fairs.—By the kindness of many readers we are enabled to give on pages 259-60 a pretty full list of Exhibitions to be held this fall. We desire to make this list still more complete, and will thank any friend who will enable us to supply omissions, by immediately forwarding the desired information.

A $5.00 PREMIUM.

We have no Club rates at present; all subscriptions are at $1 a year. But any person sending in during this month (Sept.) a Club of 20 *new* subscribers, at $1 each, will be presented with **One Dozen** of the "Agriculturist Strawberry" plants; AND each *new* subscriber will of course, be also entitled to his own plant, in due order after previous applicants, if he enclose the usual 5 cents extra for box, packing, and postage. When $1.15 is sent (instead of $1 each), the paper will be supplied *fifteen months*, that is, the remaining three months of this year, and all of 1865, (Vol. 24).—Extra time will be allowed for responses to the above offer, coming from the Pacific Coast and other very distant points.

Strawberry Distribution—Take Notice All.

The recent brief but refreshing rains started the plants into more vigorous growth again, and they are multiplying rapidly. We dislike to disturb them, but shall keep good faith with our readers and begin the distribution of the plants by mail on August 30th, and keep up the work with a large force. We hope and expect to get off the whole 80,000 to 90,000, spoken for, and supply all cash orders for others soon after the middle of September. The plants are large and require a box 8 inches long and 1¾ inches in diameter to put them into, after bending the roots and tops and often cutting off the large leaves. Those who receive them will notice how much care is given. The 5 cents asked will not compensate for the packing, the boxing etc. etc. and the postage. But if they are well treated by those who receive them we shall be content. *There certainly has never been another plant promising so many excellent qualities as this.* If it does as well everywhere as in this vicinity, it will fill the country to the exclusion of everything else yet brought out, as a general crop. Each plant properly cared for can be made to produce hundreds in a single year.

Watch for the Box. When it arrives slit the outside wrapper, and the box will open. Take out the parcel, remove the oil-cloth and moss, spread the roots carefully and plant out at once in soil previously all ready. Shade for a day or two at least, if it be dry, but so as to admit plenty of air. In watering, it is best to dig a trench around the hills and pour in water enough to soak up to the roots. See another item, page 260, on setting out plants. Never let the crown of a plant sink so as to be covered with earth. The old leaves are of less importance than the new ones to be formed. Many dealers cut off all the leaves in sending strawberry plants. We let as many of them remain as can be got into the boxes. No matter if the roots appear dry on opening them, they will scarcely fail to start into life as soon as moistened and planted in moderately warm soil, if not hurt by dry wind or sun.—The *best* way is to have a moderately light soil, made so by mixing in a quantity of black earth from the woods, with a very little ashes, and one tenth part of well rotted manure. When the plants are set, spread closely around them an inch deep coat of only partly rotted short strawy manure, covering the ground a foot each way, and water through this. Leave this around them as a mulch. With the above special care you will have no further trouble, only to protect by a light coat of straw in winter as a possible safe-guard, though our exposed plants stood as well as those covered. Next spring they will cover a large space of ground, and each plant will send out an abundant stock of runners for new plants.

Strawberry Plants for Sale—Deliverable Sept. 15th to 20th.—We are now able to say, that the distribution of the great "Agriculturist Strawberry" plants, to subscribers, will be so far advanced that we can promise to begin the delivery of the *purchased* plants about Sept. 15th or by the 20th at latest. This will be in ample time for planting by dealers and others who wish to secure a stock. We do not urge any to buy this variety, for the publisher is interested in its sale. But if, after what so many others have said of its surpassing excellence, any are disposed to go early into its culture, on a large or small scale, for home use or sale, we shall be happy to have their orders as a help to reimburse the large expenses on it, in this the hardest of hard years for publishers. The cash orders will be filled in the order of reception at the rates previously announced, viz: **1** plant 75 cents——**2** plants $1.20——**6** plants $3——**12** plants $5——**100** plants $25. Only good, strong plants will be sent out and they will be well packed, without charge, and sent by mail, postpaid, when desired.

Spurious Strawberry Plants.—Look out for them.—Let it be remembered that, the one plant of the "Agriculturist Strawberry" secured in June 1863 by Mr. Wm. S. Carpenter, was the *only* genuine one not taken to Mr. Judd's grounds, and not a plant has been permitted to be taken thence until the distribution to subscribers, Aug. 20th, 1864. The one above referred to has been greatly multiplied by Mr. C., and several responsible dealers have engaged plants of him and advertise them. From what we hear, we suspect other plants will sometimes be substituted by irresponsible parties. Let all purchasers be sure of what they are buying. If there are any other genuine plants than those above described, they have been *stolen*, and the thieves will cheat in quality and kind, as well as in getting them. We expect to watch all such operations in this line.

Not Cut Down Enough.—We tried to cut down the advertising still more, but several large advertisers have contracts for space not yet expired. They are lucky, as we could not now give them the room except as a matter of good faith.——We invite attention to the business of the good men who advertise in this journal;—we aim to admit no others. When writing to them, please tell them where their advertisements were seen; this is always particularly gratifying to them.

N. B.—NOTE WELL.

All terms, subscription rates, premiums, prices of books, etc., are strictly limited to the month in which they are announced. The constant changes in currency oblige us to adopt this rule. The same terms may be continued, but can not be promised. Whatever is promised for any month will be fulfilled to the letter; if we get the bad end of a bargain, we shall live up to it. For example, those paying a year's subscription now will get the paper a year at the rate now offered, however high we may soon be compelled to fix our rates.

Back Volumes & Numbers Supplied.

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TERMS—SPECIAL NOTICE.—*The terms of the English Edition of the Agriculturist will remain at* $1 *a year for subscriptions received during October. The future terms will depend upon the Currency, expenses, etc.—The* GERMAN *Edition is now* $2 *a year; or: Four Copies for* $7: $8 *Copies for* $10: *Ten or more Copies for* $1.50 *each. Single numbers* 20 *cents, post-paid.—The German Edition will contain all the prominent Articles and Engravings of the English Edition, besides a separate department specially adapted to German-Americans. Our readers will confer a favor both upon the Publisher and their German neighbors, by making this Edition more widely known among them.—See other business items on page* 304.

Notes and Suggestions for the Month.

October in America is the golden month of the year. Poets sung of "golden corn" long before the golden eared Maize gave the words the force which they now convey to those familiar with this most golden of yellow harvests. The progress of agricultural science and good practice are fast depriving our landscapes of the charm of *topped corn fields* upon which the eye used to rest with such satisfaction, seeing the rich treasures of the grain showing out from among the weathered husks, as if Nature repented herself of having covered up so much wealth. So we must content ourselves with knowing that the stately but awkward stooks represent all the value and more too, and thriftier farming besides. Compensation is Nature's law;—and the stooking of the corn brings to view the still more golden show of pumpkins, which outside of New England are a crop too much neglected. Orchard fruits, golden and red, in variegated pyramids under the trees, or drifted around the cider mills, repeat the hues of the frost touched forest. Abundant game tempts hunter and sportsman, and this perhaps placed the *Archer* as the October zodiacal Sign. The Indian of the great plains and rocky mountains is the *Sagittarius* of our Western World.

Work for the Farm, Barn, and Stock Yard.

Agricultural Exhibitions, etc., no matter if too much given up to horse trots and jockeys, should be attended by farmers, for there is always some good to be gained and new facts to be learned; and at any rate, there is a chance to exert a good influence to redeem the societies from evil ways into which so many have fallen.

Barns and Buildings.—Look over hints for previous months in making ready for winter. This is a very favorable season for all general repairs that do not require the getting out of heavy frames, etc., which is properly winter work; at all events prepare good protection for all live stock. Pine boards are not so expensive an outside protection, as an inside lining of provender.

Beeves.—Soft corn, pumpkins, and grass at this season, fatten cattle faster than corn, roots and oil cake in winter. The bulk of flesh should be laid on now, preparatory to the later finishing off.

Butter.—Secure as full a flow of milk as possible, by feeding roots or pumpkins as the pastures fail, and add oil-cake, bran, soft-corn or the like to produce a maximum yield of butter.

Cabbages.—See note under Kitchen Garden.

Cellars.—Keep constantly open for good ventilation, look to the draining, if there is any chance for water to get in by springs in the bottom, or through any part of the foundation.

Carrots.—Dig before there is danger of the ground freezing even very slightly. Keep in the cellar and away from frost. The tops before they are frosted are good feed for cattle.

Cattle.—As the nights grow long and cold, give shelter to all kinds of stock. The manure alone will pay for taking them up at night.

Cisterns and everything laid in cement should be finished in time to harden before freezing weather. Make sure of a sufficiently thick covering of earth over underground cisterns, etc.

Corn.—Push forward the husking. Place the garnered corn in the ear in good airy cribs, so that it shall dry rapidly. Bind up the stalks in firm bundles and make good stooks, left open for circulation of air, yet strong and shaped to shed rain. Well cured corn fodder is worth as much as good ordinary hay. See note in last month's *Agriculturist* about saving seed corn.

Draining.—The lessons of the drouth should make every farmer in favor of thoroughly draining (4 feet deep, drains 2 rods apart,) all land subject to suffer either from drouth or excess of moisture. Try this experiment on both kinds of land—not in a sand bank or a gravel bed.

Farmers' Clubs.—See Basket item for a model constitution—and if possible organize and keep up an active club in your own neighborhood.

Grain and Granaries.—Leave no grain in stacks after this month. Clean thoroughly and store in vermin proof granaries, or market at once. We hold to selling whatever we have to dispose of whenever we can get a fair price. In the long run this averages the most profitable results, as it saves anxiety, wastes, losses by vermin, and trouble in various ways.

Hogs.—Feed with perfect regularity. Soft corn may be fed on the ear, and so with sound corn before it hardens, though when it is convenient it is always best to cook hog feed. Hogs fatten faster in October than in any other month.

Ice-Houses.—See page 290, and Basket item.

Manures.—Preparations should be made this month for a supply of litter, muck, etc., which used first as bedding or as absorbents, shall constitute the chief bulk of the manure heap. The manure pits, cellars, and yards, should be cleared out, and that which can not be used on the land this autumn, piled up in well laid heaps. Strawy manure being mixed with the fine, or the fresh composted with muck or sods. This makes room for the winter manure, which should be augmented by every means possible.

Painting.—The present is a most favorable time for painting buildings, implements, etc., especially such tools as are used in early spring.

Plowing.—See article on page 293, present No.

Potatoes.—See page 288, also article in Basket.

Poultry.—Provide warm, light, winter quarters—if possible where the sun will shine in. Arrange for saving all droppings and sweepings.

Pumpkins furnish an excellent, nutritious food for a comparatively short time. Cook the immature ones for the hogs. Feed ripe pumpkins to milch cows, only after removing the seeds. Bear in mind that the effect of eating the seeds is to diminish the secretion of milk, while that of the kidneys is increased. The soundest pumpkins may be kept into the winter.

Roots.—In harvesting, cut and bruise as little as possible. Top them so as to be able to feed the tops to cattle. Let them have a few days to "sweat" before housing. Gather in this order: carrots, beets, mangels, soft turnips, rutabagas.

Rye may be sown with advantage any time before the middle of the month—better earlier.

Sheep.—Keep salt always before them; let there be no lack of feed, that they may be in condition to meet a severe winter. Keep the bucks from the sheep, unless you are so situated as to be able to raise very early market lambs.

Sorghum.—Top, harvest, and work up any not cut last month. Save the leaves for fodder and also the second growth if any has started.

Timber cut at this season, better just before the leaves fall, is durable and less apt to decay.

Wheat.—It is late to sow wheat north of lat. 40°. Still it may be done on good ground not given to heaving by the frost. That which has too rampant a growth may be fed off by young cattle, but not too close. It promotes tillering.

Orchard and Nursery.

The gathering of fruit has so much poetry about it that it can hardly be called labor. The trees are loaded with their ruby and golden treasures, the ripe consummation of the season's growth. The fruit has worked into its very texture all the glorious sunsets of the past summer and is waiting to be plucked. But our Chief has put a veto on all fine writing; here, like Gadgrind, he is for facts, and though a tempting subject, we must leave the sentiment thereof to the enjoyment of the reader, while we go on with our very matter of fact Calendar.—In picking fruit, whether for keeping or for market, too much care can not be observed. A bruised fruit will soon rot, hence the necessity for hand-picking all that can be reached by any kind of ladder, and the use of some kind of a fruit gatherer for those which can not be secured in this way. A home-made fruit picker was figured in the Sept. *Agriculturist*, and others have been given in former numbers. Fruit, after being gathered, exudes its superfluous moisture and undergoes what is called sweating. It may be put in heaps under the trees, he spread on the barn floor, or be placed in barrels, not headed up, till sweating is completed. Pick in dry weather, leaving the later sorts until frosts come. Fruit, to keep well, must be kept as cool as possible without freezing. After sweating is over, barrel up, and leave the barrels under a shed until quite cool weather, and then remove to a cool and well ventilated cellar. In barreling, use no packing material, but have the barrel so full that it will be necessary to press down the head by means of a lever or screw press contrived for the purpose. See illustration in "Basket." Select the fruit for marketing, have the barrels of the same quality all through, and correctly mark the name of each sort. Winter pears may be treated the same as apples.

Now is the proper season for planting all kinds of hardy deciduous trees and shrubs, except stone fruits. The old axioms have to be repeated. Plant trees; don't buy of peddlers, but of reliable nurserymen; and prepare the soil well. If the site for an orchard is damp, it must be drained. Manure, plow and subsoil. Some one has remarked that he would "in setting out an orchard, however large, make but one hole, and that would be over the whole orchard"—meaning thereby that the whole soil should be well prepared. Nurserymen should give equal care in setting them. The hole should be abundantly large to receive the roots; prune all mangled roots with a smooth cut from below outward and shorten in the top from one third to one half. Set carefully, putting the best soil around the roots and work it well in among them, letting the tree be on a very slight mound so as to allow for settling to the general level. Carefully label everything, and besides make a record or map so that the name may be ascertained should the label be lost. Planting may commence as soon as the leaves begin to fall freely. It is sometimes necessary to remove good sized trees, in which case great care must be taken to get up all the roots possible, and it is well to set the tree in the same position with reference to the points of the compass, as it stood before.

The nurseryman will now appreciate the benefit of ample preparation for the fall trade, in having labels, stakes, and all the materials for facilitating packing at hand. In taking up and heeling-in trees to supply orders, use the greatest care to keep the sorts distinct. If there is none of a particular variety in stock, never supply its place with another kind. Fair and conscientious dealing will build up a business, while the reverse will ruin one.

Cider.—In some places cider will be made the last of the month, though it is generally left until later. Use sound apples and leave the pulp 24 hours before pressing. Put the juice into clean and sweet barrels and set in a cool cellar to ferment.

Drying Fruits.—Apples, etc., may often be profitably dried for home use or for marketing. Shallow trays, with slat bottoms made of lath, answer a very good purpose. These may be set upon two rails supported at a distance from the ground and are very readily moved at night, or in case of rain.

Insects.—Crush out the borer. As leaves fall, cocoons and clusters of eggs may be readily seen.

Labels.—Examine to see if they are sufficiently distinct, and renew all those which will not last another year. Keep also a record by which the tree can be identified should the label be lost.

Manure.—This is the secret of good crops of fruit as of other things. Spread a liberal coat over the surface as far out every way as the roots extend.

Ornamental and Shade Trees.—These are planted at the same time and with the same care as fruit trees. Autumn planting of evergreens is not commended.

Seeds.—Collect tree and shrub seeds of all kinds and plant or keep in boxes of sand until spring.

Kitchen Garden.

The growing season is over, except for some later things, and the October sun is ripening up the melons, squashes, tomatoes, etc., and giving the final growth to those crops which are to be wintered or withstand the early frosts. There is an abundance of work to be done in the garden. The ripening products are to be harvested, the tender things are to be put into cold frames, the half hardy crops of spinach, etc., are to be covered with straw, salt hay, or other litter; and more than all, the ground is to be prepared for next year's crops. In stiff soils especially, we can not too strongly recommend the practice of throwing the earth up into ridges, either by the spade or plow, according to the size of the garden. Earth thus weathered becomes, as an old gardener once said to us, "as soft as silk." We recently passed by a garden cultivated probably by some squatter in one of the newest blocks of N. Y. There were beds of spinach, lettuce, leek, etc., and not a weed to be seen. Certainly one who *owns* his land can afford to keep it in as good a condition as that of a mere squatter. Even at this season let the garden be free of weeds.

Artichokes.—Give a winter protection of straw or litter, and bank with earth in all northern localities.

Asparagus.—If plants are at hand, make a new bed. Work in *a plenty* of manure, at least two spades deep, and set the plants 3 inches below the surface, at least a foot apart each way. On growing plots, cut the tops and dry and burn them. Give a liberal coat of coarse stable manure all over the bed.

Beans.—Last month's *Agriculturist* gave directions for drying Limas. Don't forget to do it. Pick and salt string beans—they make good pickles.

Beets.—Pull at approach of frosts; do not cut tops too close; dry a little in the sun, place in the cellar and cover with sand or earth to keep from wilting.

Cabbages.—Plants sown this autumn may be transplanted to cold frames. The late heading kinds may be left out until hard frosts. Preserve through the winter by replanting in a dry place and cover with straw and a board roof; or place two rails over a furrow and set the cabbages head down, throw on some straw and turn a furrow toward them; or cover the heads with earth by means of a spade. They winter well by being planted in a cool cellar, not under the dwelling rooms.

Cauliflowers.—These will winter well in the cellar, and those which have not formed heads will do so, if the seed was of good stocks. Young plants, put three in a quart pot, are kept in a pit until spring.

Carrots.—Harvest same as beets; feed the tops.

Celery.—Continue to earth up until hard frosts. When necessary to give winter protection, take up and stack in a bed about two feet wide, bank up with earth, and protect with soil and board roof.

Hot-Beds.—Provide rich soil for early spring, under a shed, or where it will be in condition to use.

Lettuce.—Sow seed in frames; transplant to them.

Onions.—Those late sown require winter covering. Some sow this month and cover the patch with litter; they start very early in the spring.

Parsnips.—Dig a supply for winter use, and keep covered with sand or earth, leaving the main crop to be dug from whenever the ground is open.

Pickles.—Continue to lay down in salt, cucumbers, imperfect cauliflowers, green tomatoes, etc.

Rhubarb.—Make new beds, setting the crowns 3 feet apart. Cover old plants with plenty of manure.

Salsify.—Treat the same as directed for parsnips.

Spinach.—The late sown must be thinned to 6 inches, and hoed and weeded until hard frost, then cover lightly with straw or litter until early spring.

Squashes.—Gather and house as soon as ripe, as they are injured by a slight frost. If sudden frost is indicated, gather in heaps and cover with vines.

Sweet Potatoes.—Prevent the vines from rooting, by moving them occasionally. Dig as soon as frost kills the tops. Dig on a warm day and after they are dry pack in cut straw, handling very carefully.

Tomatoes.—A slight covering put over the partly ripened fruit will keep off early frosts, and often help secure a larger crop than without this care. Can or bottle a full supply, and make catsup.

Trenching can well be prosecuted this month.

Winter Cherries.—Gather as they ripen and preserve, or keep in the bulbs, for winter eating.

Fruit Garden.

When there is sufficient room there are many reasons why a separate spot should be devoted to small fruits. The ground is to be deeply worked and manured, and all hardy varieties may be planted as soon as the leaves fall.

Blackberries.—Enrich the ground with muck or leaf mold, and well decomposed manure, and set at least 6 feet apart each way, or in rows 8 feet apart, and 4 feet in the row. It is well to lay down the canes and protect them with a light covering.

Currants and Gooseberries.—Transplant. See note on varieties on page 267 (Sept.). Take cuttings of strong wood of the present year's growth, six inches to a foot long, cut out all but two or three of the upper buds, and set them in good soil with these buds just above the surface. Set 6 inches apart and crowd the soil firmly around the base of the cuttings, cover with litter when cold weather comes on. They will make good plants next spring.

Dwarf Fruits.—These are the only kind of fruit trees for which there is usually room in the garden. Dwarf pears and apples may be planted in autumn. Cherries and peaches are better left until spring.

Grapes.—Pick as they ripen. Those intended to be kept should be fully ripened and packed in small boxes deep enough to contain two layers, and be kept in a cool place. Plant new vines. Very far north, pruning and laying down may be done this month. See wine making on page 294, and look over our notes on varieties given from time to time.

Strawberries.—Note directions for planting in Aug. and Sept. *Agriculturist.* Procure a supply of covering material ready for use when cold weather comes on. Leaves and straw are most suitable. New beds may be made nearly to closing of ground by frost. It is desirable to have the plants get established in the soil before winter, ready to start into growth at the opening of spring. In this locality we have had very good fruiting beds the next spring from large, vigorous plants, set as late as Oct. 15, but this is not always to be looked for.

Flower Garden and Lawn.

This is a most favorable month for making improvements, laying out new walks, preparing lawns, setting trees, and all work of construction. Chrysanthemums, Dahlias, and late blooming plants should still make the garden attractive, and neatness of keeping be continued. Place tender plants in-door before cool nights check their growth.

Bedding Plants.—It seldom pays to take up old plants of Verbenas, Petunias, etc. New ones to winter over should have been provided for by cuttings. It is not too late even to start them now.

Bulbs.—Nothing is more attractive in spring than a show of Hyacinths, Crocuses, Tulips, etc. This is the time to plant them. Set in rather sandy ground well manured, putting the large ones three and the small ones two inches deep. Before the ground freezes, cover with coarse manure.

Chrysanthemums.—Leave some to make the borders gay until hard frosts; pot others to bloom in-doors. They will wilt a little at first, but soon

recover if shaded, and will flower for some months.

Dahlias.—See that all are correctly labeled, while the flowers will allow them to be identified. After frosts kill the tops, allow the roots to remain a week or so in the ground to ripen. Take up on a dry day; keep in a dry cellar the same as potatoes.

Frames and Pits, should be made ready. See page 286. Set the plants in them when night frosts come, and cover; keep sash off every warm day.

Fuchsias.—Pot on the approach of frost, and keep over winter in a cool, dry cellar.

Gladiolus.—Take up before the ground freezes, and preserve in the cellar the same as dahlias.

Hedges.—The lower shoots of deciduous hedges may now be shortened and the whole put into shape.

Lantanas, if lifted and put in a box or large pot, will do well through winter in a cellar. Trained to a bush form they improve in beauty each year.

Lawns.—New ones may be made. Grade, trench, or subsoil, and manure the plot. Sow *clean* seed early and roll and repeat the rolling before cold weather. Blue grass makes a lasting, uniform sod.

Perennials.—Take up, divide, and reset Dicentra, Pœonies, Phloxes, Clematis, Hollyhocks, etc.

Pinks and Carnations.—Put rooted layers and winter in pits or cold frames, or in dry, cool cellar.

Seeds.—Save from best plants as fast as they ripen.

Shrubs.—All the hardy deciduous shrubs may be transplanted. Those native kinds which it is desired to remove to the grounds may be attended to this month. Mark them before the leaves fall.

Stocks and Wall Flowers.—Pot and remove to the pit or green-house before freezing weather.

Cold Grapery.

The only thing to be done is to favor the ripening of the wood. For this purpose the temperature may be slightly increased by closing the lower ventilators and admitting air only through the upper ones. Leave every leaf on the vine until it drops of its own ripeness. Close the house entirely where there is any danger of chilling frost.

Green and Hot-Houses.

The houses should have been in readiness last month. Remove tender things in-doors in good season, and let Azaleas, Camellias, and hardier plants be out until there is danger from frosts. In removing plants to the house, the pots will need cleansing, and all moss and weeds to be removed from the surface. It is a good plan to remove the old soil from the surface and replace it with fresh. The tropical collection will need some fire-heat. The general directions of last month apply to this.

Annuals may still be sown for winter blooming. A stock of Mignonette is always useful; more showy plants make the house brilliant in winter.

Insects.—See that the plants are clean from these when they are brought in, and keep vermin down.

Ventilation.—Air well, but avoid sudden changes.

Water.—Syringe freely; keep atmosphere humid.

Apiary in October.

Prepared by M. Quinby—By Request.

Reports from different sections of our country, show a greater disparity in the honey yield than usual, this season. But few swarms have issued in any place. In some localities the bees have stored surplus honey in abundance, while in others they have too little food for winter. Too little honey, or too much, are both unfavorable conditions. The bees should have room to pack themselves in the empty cells, or they will suffer with cold in consequence. If too little honey is stored, they starve if not fed. The food given them is often not as well adapted to their wants as that collected from the flowers, and the chances of losing them in winter are increased; yet, with good attention, most of them may be kept. If it is desirable to keep such light colonies, they should be put in the best possible condition this month by feeding, that the honey may be sealed up before cold weather. They will add nothing more to their stores now, except in localities where few are kept, and the Golden Rod and the Wild Aster abound. It is mistaken kindness, and false economy that decide never to kill bees however unfavorable their condition for wintering. Some colonies can not be wintered, and it is mercy to take life at once, rather than allow them to starve by degrees. Keep all the colonies that can be made profitable another year. Decide which are to be wintered. Feed the light ones to the required weight, not by weighing what is given them, but by ascertaining how much the hive has gained—robbing bees may carry it off as fast as it is fed. Feed at night, and as fast as they will take it up. Such as have too little comb to hold the stores (less than 1,200 cubic inches spare filled,) should be taken up, and the hive, with contents, after the bees are removed, be set away for another year. West India honey, or that strained from hives that have contained diseased brood, will do for feed, if scalded (boiled) and well skimmed. A queenless colony may have a colony of bees introduced, if it have sufficient stores, and is not injured by the moth. A colony working without a queen will store treble the usual quantity of bee-bread, and should weigh several pounds (8 or 10) more, to be safe for winter, than if it had had a queen. Send the surplus honey to market now. Turn the honey boxes bottom up, and pack in large cases that can be easily carried. Secure careful handling lest the combs be broken. In localities where foul-brood exists, the greatest care should be taken to remove it all. A colony thoroughly infected can not be cured; it will not swarm, is frequently lost in winter, will often become weak in summer, get robbed, and the disease will thus spread through other hives. The most profitable for owner, neighbors, and all concerned, is to break up *all such hives*, and save the honey and wax. A hive well filled with honey, having the brood diseased, must be taken now or all will be lost. Colonies that continue rearing brood later than usual, are often affected. Examine the old stocks as for queenless colonies, with the point of a knife removing the sealing of some of the cells of the brood combs that appear the oldest. Should the young bee while in the larva state, be dark colored, it is dead, and a few such should condemn the hive. Prevention in this matter, is better than cure. When all disease is removed, there is no risk of its spreading to others through the apiary. Colonies for winter should be strong bees at this time, extending through all the combs, but there is no advantage in having an unnatural number in one hive, as might occur if three or four strong colonies were united; but two or three weak ones may be put together advantageously. They seldom quarrel if smoked thoroughly with tobacco or puff-ball.

Commercial Notes.—Valuable Tables.

In the next column we present a series of Tables prepared expressly for the *American Agriculturist*, which give, in a very condensed and convenient form for study and reference, the various transactions in Breadstuffs, not only during the past month but for a series of years past. The figures are compiled from an immense number of records, partly from official sources and partly gathered by ourselves. These figures are believed to be thoroughly reliable, no labor or care having been spared to make them so. The tables tell their own story so plainly that there is little necessity for explanatory remarks.—It will be seen by Table **3** that the exports have fallen materially below those of the previous year—corn very greatly so. Flour has nearly equalled the average of 18 years, (Table **4**); Wheat is double the average, while Corn sinks almost below comparison. The Tables present many other points of obvious contrasts....*During the past four weeks*, the Breadstuff Markets have been very unsteady and unsatisfactory, owing to the violent fluctuations in gold, and we have no means of judging, even as to the immediate future. When gold falls, the value of Breadstuffs for export is decreased, and the whole market depressed. If, through military success or other causes, gold continues to decline, all exportable articles must necessarily fall, though the prices of Breadstuffs have not yet gone down as much as gold. The large dealers are holding back for high prices again; they are carrying their stock with borrowed funds, and a permanent decline would crush many large operators both here and at the West....Provisions have been affected by the same causes as Breadstuffs, but not to the same extent, and the speculators have maintained their firm rates remarkably well .....Wool opened pretty briskly at advancing prices, but the fall in gold has recently brought business to a stand, and quotations are now altogether nominal....Cotton, Seeds, Hay, Hops, and Tobacco, opened buoyantly, with good inquiry, but closed heavily.

The following condensed, comprehensive tables, made up to Sept. 15, show the transactions the past month.

1. TRANSACTIONS AT THE NEW-YORK MARKETS.

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
25 days *this* m'th	319,500	1,213,000	1,329,000	2,000	51,000	1,354,000
24 days *last* m'th	396,500	2,309,000	1,518,000	11,500	31,000	755,000
SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	
25 days *this* month,	457,500	1,676,000	1,421,000	5,100	1,600	
24 days *last* month,	467,000	3,174,000	1,584,000			

2. *Comparison with same time last year.*

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
25 days 1864	319,500	1,213,000	1,329,000	2,000	51,000	1,354,000
25 days 1863	335,000	1,734,000	2,019,000	48,250	62,000	491,000
SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley*	
25 days 1864	457,500	1,676,000	1,421,000	5,100	1,600	
25 days 1863	397,000	2,575,000	2,513,000	64,500	7,000	

3. *Exports from New-York Jan. 1. to Sept. 15.*

	Flour, bbls.	Wheat, bus.	Corn, bus.	Rye, bus.	Oats, bus.
1864	1,253,382	10,968,797	709,293	453	31,185
1863	1,832,899	11,706,100	7,292,261	409,157	116,057
1862	2,254,501	15,896,811	8,640,113	1,031,646	66,537

4. *Exports of Breadstuffs from the United States to Great Britain and Ireland, each of 18 years, ending Sep. 1:*

	Flour, bbls.	Wheat, bush.	Corn, bush
1864	1,241,804	16,492,523	717,454
1863	1,479,413	23,167,190	10,334,856
1862	2,672,515	25,754,709	14,084,168
1861	2,561,661	25,555,310	11,765,054
1860	717,156	4,938,714	2,221,857
1859	106,457	430,010	342,018
1858	1,263,430	6,355,645	3,212,502
1857	849,600	7,479,401	4,746,278
1856	1,641,265	7,976,406	6,731,161
1855	173,209	324,427	6,679,138
1854	1,816,920	6,038,003	6,049,371
1853	1,600,449	4,823,519	1,425,278
1852	1,427,442	2,738,442	1,487,397
1851	1,259,584	1,496,335	2,205,601
1850	574,737	461,276	4,753,338
1849	1,137,556	1,140,194	12,683,260
1848	982,583	241,309	4,380,226
1847	3,153,845	4,000,359	17,157,659
Grand total for 18 years	24,225,646	139,581,841	111,033,391
Annual Average	1,345,869	7,754,247	6,168,523

5. *Exports from the United States to the Continent of Europe for ten years, each ending Sept. 1.*

	Flour, bbls.	Wheat, bush.	Corn, bush.	Rye, bush.
1864	100,511	333,819	18,399	13,965
1863	213,379	2,343,314	68,957	435,205
1862	635,572	8,617,472	292,074	1,612,926
1861	142,129	3,452,496	101,145	347,258
1860	49,243	178,031	19,258	None.
1859	51,388	57,345	25,519	None.
1858	303,100	390,496	16,848	13,100
1857	483,344	2,875,653	513,390	216,162
1856	748,408	2,610,079	282,068	1,953,178
1855	7,763	4,972	368,428	35,569
Total for 10 yrs.	2,726,137	20,864,409	1,701,371	4,649,363
Annual Average	272,614	2,086,411	170,137	464,936

6. *Receipts of Breadstuffs at the head of tide water at Albany, by the Erie and other New-York Canals, from the Commencement of Navigation, May 1st, to and including Sept. 9th, in the years indicated.*

	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats
1861	661,100	13,340,000	11,133,000	448,000	206,000	3,115,800
1862	886,206	16,282,800	11,721,500	531,200	381,100	2,509,400
1863	1,743,100	10,923,000	13,256,700	239,000	70,900	5,157,500
1864	556,200	9,933,300	5,537,200	80,900	166,100	4,959,200

The following table gives the wholesale prices at the two dates of going to press, but each day almost, extensive fluctuations in these prices are experienced.

CURRENT WHOLESALE PRICES,	Aug. 15.	Sept. 15.
FLOUR—Super to Extra State	$9 10 @10 50	$8 35 @10 35
Super. to Extra Southern	10 45 @14 50	11 00 @15 50
Extra Western	9 65 @13 00	9 85 @12 50
Extra Genesee	10 60 @12 50	10 40 @12 00
Superfine Western	9 10 @ 9 35	9 10 @ 9 35
RYE FLOUR	8 50 @11 50	8 00 @ 9 50
CORN MEAL	7 90 @ 8 50	8 00 @ 8 50
WHEAT—All kinds of White	2 85 @ 3 25	2 33 @ 3 55
All kinds of Red	2 15 @ 2 53	2 05 @ 2 35
CORN—Yellow	1 54 @ 1 55	1 63 @ 1 65
Mixed	1 51 @ 1 52	1 62½@ 1 63
OATS—Western	92 @ 99	88 @ 90
State	97 @ 98	88 @ 89
RYE	1 93 @ 2 00	1 69 @ 1 65
BARLEY	Nominal.	Nominal.
COTTON—Middlings, per lb	1 72 @ 1 73	1 78 @ 1 80
Hops, crop of 1863, per lb	18 @ 33	18 @ 38
FEATHERS, Live Geese, p. lb	Nominal.	Nominal.
SEED—Clover, per lb	Nominal.	Nominal.
Timothy, per bushel	Nominal.	Nominal.
FLAX, per bushel	Nominal.	Nominal.
SUGAR—Brown, per lb	18½@ 24	19 @ 24½
MOLASSES, New-Orleans, p.gl.	1 00 @ 1 20	1 05 @ 1 25
COFFEE, Rio, per lb	47 @ 50	47 @ 51
TOBACCO—Kentucky, &c, p.lb	14 @ 36	14 @ 38
Seed Leaf, per lb	25 @ 65	25 @ 65
WOOL—Domestic fleece, p. lb	90 @ 1 15	1 00 @ 1 18
Domestic, pulled, per lb	80 @ 1 10	85 @ 1 12½
California, unwashed	30 @ 65	30 @ 75
TALLOW, per lb	19 @ 19¾	18¾@ 19
OIL CAKE, per ton	70 00 @ 72 50	90 00 @100 00
PORK—Mess, per bbl	39 00 @39 50	42 62½@43 00
Prime, per bbl	34 00 @34 50	38 50 @39 50
Prime Plain mess	17 00 @18 00	16 00 @18 00
LARD, in bbls., per lb	21½@ 22¾	23½@ 24½
BUTTER—Western, per lb	38 @ 46	40 @ 48
State, per lb	40 @ 50	48 @ 56
CHEESE	18 @ 26	19 @ 27½
BEANS—per bushel	Nominal.	2 50 @ 2 90
PEAS—Canada, per Bushel	1 90 @ 2 00	2 00 @ 2 10
EGGS—Fresh, per dozen	22 @ 25	27 @ 29
POULTRY—Fowls, per lb	13 @ 20	16 @ 18
Turkeys, per lb	20 @ 21	22 @ 23
Spring Chickens, per pair	75 @ 1 00	50 @ 1 00
POTATOES—Mercers, p. bbl	5 50 @ 6 00	5 00 @ 6 00
Peach Blow, per bbl	5 00 @ 5 50	5 00 @ 5 50
Pykemans, per bbl	5 00 @ 5 50	5 00 @ 5 50
APPLES—Western, per bbl	3 00 @ 4 00	3 00 @ 4 00
Apples—Fall Pippins, per bbl	3 50 @ 4 50	2 00 @ 3 50
Apples—Common per bbl	1 00 @ 2 50	1 50 @ 2 00
PEACHES—Delaware, per bskt	1 25 @ 1 50	75 @ 2 00
Peaches—Jersey, per basket	1 25 @ 2 00	75 @ 1 50

N. Y. Live Stock Markets.—BEEF CATTLE.—The average number of cattle received weekly, has been 5,970, nearly 1,200 greater than last month; but there have been many grass-fed beeves, of inferior quality and light weight, so that the supply has not much exceeded the demand. The market closed last month on the advance, and showed a steady upward tendency until the past week, when an unusually large supply depressed prices ½c.@2c. Prime beeves are scarce, and sell at about 18½c.@19½c. ℔ lb., dressed weight; Medium to good, 14c.@17½c., and thin, light stock at 8c.@13c.

Milch Cows.—Average weekly supply 120. Poor cows sell slow; good, prime, and extra milkers are in fair demand. Prices range from $40 to $70, for medium to good cows, and $80 to $100 or more, for choice.

Calves.—Receipts average 2,132 per week. Good veals sell at 11c.@12c. ℔ lb, live weight, and choice at 13c.; grass-fed at $4@$12 per head, according to quality.

Sheep and Lambs.—Weekly supply, 19,753, against 15,948 last month. Prices have been variable, but close at a material advance over last month, on good stock—inferior quality rising to a limited extent only. Good sell at 8½c.@9c. ℔ lb., live weight, and 9½c. for selected animals; stock sheep at $4@$5 per head.

Live Hogs.—Weekly average, 7,593. Prices, 12½c.@13c. per lb., live weight, for fat hogs: an advance of nearly 1c.; stock hogs bring 7½c.@9c. per lb.

U. S. 7-30 LOAN.

The Secretary of the Treasury gives notice that subscriptions will be received for Coupon Treasury Notes, payable three years from Aug. 15th, 1864, with semi-annual interest at the rate of seven and three-tenths per cent. per annum,—principal and interest both to be paid in lawful money.

These notes will be convertible at the option of the holder at maturity, into six per cent. gold bearing bonds, payable not less than five nor more than twenty years from their date, as the Government may elect. They will be issued in denominations of $50, $100, $500, $1,000 and $5,000, and all subscriptions must be for fifty dollars or some multiple of fifty dollars.

Convertible into a Six per cent. 5-20 Gold Bond.

In addition to the very liberal interest on the notes for three years, this privilege of conversion is now worth about three per cent. per annum; for the current rate for 5-20 Bonds is not less than *nine per cent. premium*, and before the war the premium on six per cent. U. S. stocks was over twenty per cent. It will be seen that the actual profit on this loan, at the present market rate, is not less than ten per cent. per annum.

Its Exemption from State and Municipal Taxation.

But aside from all the advantages we have enumerated, a special Act of Congress *exempts all bonds and Treasury notes from local taxation.* On the average, this exemption is worth about two per cent. per annum, according to the rate of taxation in various parts of the country.

It is believed that no securities offer so great inducements to lenders as those issued by the government. In all other forms of indebtedness, the faith or ability of private parties, or stock companies, or separate communities, only, is pledged for payment, while the whole property of the country is held to secure the discharge of all the obligations of the United States.

SUBSCRIPTIONS WILL BE RECEIVED by the Treasurer of the United States, at Washington, by all National Banks which are depositaries of public money, and

ALL RESPECTABLE BANKS AND BANKERS

throughout the country will give further information and

AFFORD EVERY FACILITY TO SUBSCRIBERS.

Iona Grapes.—By an accident, that part of C. W. Grant's advertisement which had reference to this excellent grape, was omitted in the September *Agriculturist*. It is printed in full in the present number.

A CARD.

I take this opportunity to return my warmest thanks to my worthy Editorial Associates, and Business Assistants, for their constant, earnest, and laborious attention to the interests of the *Agriculturist*, and of its readers, during my long absence. After so many years of close application, it is a great relief to feel that my labors can be so well shared by others. I trust none of the readers have found any lack of interest or instruction in the pages of this journal, while it has been without the direct supervision of its responsible Proprietor.——I desire further to thank the numerous correspondents who have patiently endured the non-attention to their personal letters and favors; and also to express my gratitude to the many friends, neighbors, and distant readers as well, for their kind attentions, and oft-repeated inquiries after my health and welfare. Such manifestations beget a strong desire to live yet longer, to reciprocate this kindness and to labor further to promote the comfort and happiness of my friends, among whom I love to reckon every member of the Great Agriculturist Family.

This long sickness and slow recovery are new for me, having never before been confined a dozen days at a time by actual disease, while now I have remained seventy long days and longer nights, within these walls. But the emaciated muscles are nearly filled up, and they are coming again under the control of the will. For once I have looked into the favorite old rooms at 41 Park Row, and I am almost able to go there daily now.

I do not regret the past summer—its labors, its suffering in mind, body, and business interests. I am assured that many a brave soldier has been saved from suffering, that many are alive, and others in possession of their limbs, who would have fared quite otherwise, but for the little part I have been able to take in the great work of caring for them, by being personally near the great battle fields,—and with this inward reward I am quite content.

Flushing, Sept. 16th, 1864. ORANGE JUDD.

Strawberry Plants—Some Delay in Sending—Few Mailing Boxes—Explanation.

We have had a world of trouble, expense, and vexation, in getting the Strawberry Plants off—quite enough to make a well man sick, and therefore hard indeed upon one already weakened by 70 days confinement by disease. As our readers are interested, we will explain:

I. By an expense of about $40 per week, during nearly a year, in preparing the ground, manuring, dividing and weeding the plants, guiding and setting every runner, watering during the severe drouth, we succeeded in getting our small original stock up to at least **90,000** *good* plants by Aug. 30th, with prospect of more.

II. The names of all applicants were arranged in order of reception upon labels specially prepared for boxes, all written and stamped, and twenty persons were engaged to begin the work of distribution, August 30th.

III. Last spring we originated a plan of sending plants in wooden cases or boxes, and invited plans and proposals. Out of many specimens received, the simplest and best, as appeared to us from the samples and explanations, was that described in the July *Agriculturist*, and with unhesitating faith in the plans, facilities and ability of the proposer, on June 18th we contracted with him for 50,000 boxes to be delivered the middle of August, and 5,000 a day more until fully supplied. We were so absorbed in the care of the wounded in Virginia, that we did not exercise our usual vigilance in personally looking into the contractor's manufacturing facilities. This was our chief error. After being brought home sick, we at the first possible moment sent an inquiry after the progress of our pet boxes, and was informed that they would be on hand in time all right. The Distribution was announced in good faith to begin August 30th. The middle of August, the 20th, the 25th, came, yet no boxes; but we received positive assurance that there was only a little delay in getting mechanics to finish up the machinery, and they would be ready in time.——August 30th came and our hands were all ready, but no boxes. Trusting in the promise that they would certainly come in a day or two, our packers were partly busied in sending off the larger parcels by mail and express, out of the regular order.——Sept. 4th, still no boxes. Unable to leave our room, we sent men to carefully look into the matter, and to our utter astonishment they found the machinery quite incomplete. They were at once directed to spare neither money nor exertion, day or night, to get the machinery done, and the boxes delivered at the earliest possible moment. Several hundred dollars were paid out, ($300 to $400 more than the contract for *all* the boxes called for.)——Sept. 9th, machinery reported all done, and up, and adjusted, and re-adjusted, but "*it don't work*"!—So much for being unable to *see* to our business, and *know* that all was going right.——Well, here we were, Sept. 9th—the season passing, the plants getting too large almost, the subscribers looking for them, the wrappers all prepared for a particular kind of boxes, with a costly lot of postage stamps stuck fast to them, and not fitted for any other form, and——the "beautiful machinery a failure"! We were sick at heart, at head—all over—and most so that we were not fulfilling *to the letter, and day*, our promise to our readers. We hope, and believe they will excuse us, after this statement of the case. As the next resort, Mr. Olm commenced with the old method by which we had successfully sent out 50,000 other plants in previous years. This was afterward improved upon. Over 40 persons are putting up and sending 4,000 to 6,000 a day, and this rate will be increased. We shall fill all applications to this date *before* Sept. 26th, and all further applications by the 30th. Others called for hereafter can be sent any time in October, and during part of November, except at the far north. To *future* applicants from the more northerly regions, we will send the plants next spring if requested. The club parcels of over six plants were sent off prior to Sept. 9th, while waiting for the boxes, which were designed for single plants or less than six. Experiments are still being made with the box machinery, and part of our readers will receive plants in boxes.——The only satisfaction in this vexatious delay, is, that the cool weather now prevailing is better adapted to the sending of the plants securely by mail, than the warm weather of the first of the month.

We have been taught one lesson, which we thought we knew before, viz., not to rely implicitly upon the plausible statements and promises of any man, in a matter of importance. The contractor, in this case, doubtless expected to do as he at first promised, but failed in ability and means to carry out his own intentions—"on time."

Containing a great variety of Items, including many good Hints and Suggestions which we throw into small type and condensed form, for want of space elsewhere.

"Won't Stick"—New P. O. Stamps Wanted.—We suggest to the Postmaster-General that among his many valuable improvements in the mail service, the postage stamps greatly need looking after. The two-cent stamps are brittle and badly gummed. When placed upon a freshly printed newspaper they damp off very soon. The recent law wisely encourages the introduction of new plants, seeds, cuttings, etc., by charging only 2 cents for 4 ounces. All living plants must be mailed a little damp, not wet; yet the slightest dampness within sweats off the Post Office stamps, and the receiving Postmasters frequently collect the postage anew. Stamps are greatly needed that are backed with an adhesive gum which will not so soon cleave off as those at present supplied, especially of the two-cent variety so much used for newspapers, plants, etc. We speak from experience, having used about a hundred thousand stamps the past month in sending out plants to our subscribers, etc., and we seldom use so few as 1000 stamps per week.

A Splendid Array of Fruits, Trees and Plants is offered by the nurserymen advertising in the present number, unequalled in number and variety, we believe, by any previous list. A perusal of the items will be instructive, by indicating the advancement being made in this direction, as well as profitable in directing where to purchase. Besides these, many desirable articles for the farm, the garden and the household are brought to notice, which will well repay examination. It is a satisfaction to know that none but parties believed to be reliable are permitted to use these columns at any price. Advertisers express themselves so well pleased with our request for parties writing to them to always state *where* their business cards were seen, that we therefore again request that this be uniformly done.

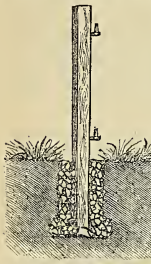
Kentucky Blue Grass.—Several readers of the *Agriculturist* living in Iowa, Minnesota and Wisconsin, inquire for the experience of practical men in those States in seeding down to Blue Grass.

Peaches on Wild Plum Stock.—Those who have these will do well to advertise, as there are several inquiring where they can be obtained.

New uses for Corn Husks.—In Austria a new manufacture has been for a year or two in successful operation and constantly increasing. Corn husks are digested several days in hot water, and then separated into (1st) coarse hemp like fibres, the veins of the husk; (2d) a pasty substance which constitutes a portion of the filling between the veins; (3d) a pulp used for mak-

ing paper is left. The first is made into cordage or coarse cloth; the paste is used or may he used for food, being mingled with flour for making bread. The paper pulp is of a pure white and makes a beautiful quality of paper. The manufacture has progressed to its present state of perfection gradually, as at first the entire plant was used to make a coarse paper. Now on account of the other products, a paper of great excellence is made at a very low cost. In August of last year the Imperial paper mill in Austria was prepared to use 100,000 lbs. of husks per week, and to purchase 50,000,000 lbs. after harvest. This manufacture is likely to increase, and no other country affords so fine a field for it as our own.

Concrete Setting for Fence Posts. There is constant inquiry for some means of setting fence posts so that they will not heave by the frost.

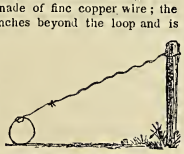


The following is suggested as offering at an expense of a few cents per post, an effective way. A hole is dug about as large as a flour barrel, but wider at the bottom than at the top, on two sides at least. The post is set upon a stone laid in the bottom and the hole is filled up rapidly with concrete made of good hydraulic cement, mixed with half as much again sharp sand or gravel as would be used in making builders' mortar; and during the filling, as many clean stones, large and small, are thrown in as can be buried in the mortar. Posts thus set will be firm as rocks, and will not decay below ground.

Preserving Timber, Posts, etc.—"Subscriber," of Iowa, asks, What is the process called "*Kyanizing*"? It is the impregnation of timber with corrosive sublimate (chloride of Mercury). The name is also loosely given to impregnating timber with other metallic salts. "*Burnetizing*" is filling the pores of wood with chloride of zinc, which is by far a cheaper salt. Blue vitriol (sulphate of copper) is also extensively used. It is better to use green or unseasoned than dry wood, and softer kinds of wood are more easily impregnated than the close, heavy kinds, like oak. Wood of rather open pores, elm, poplar, Scotch fir, larch, and even beech, may be thoroughly impregnated by setting it on end, covering the top end with an air-tight cap, connected by a tube with a tank containing the liquor set some 30 or 40 feet higher. The pressure forces the sap out at the other end, and when the liquid appears, the process is ended. The wood is also placed in air-tight cases, and the air exhausted by an engine, and the liquid then admitted, which is forced by the pressure into the pores which have been emptied of the air. They use about 100 parts of water to 1 of blue vitriol or 1¼ of chloride of zinc.

Lice on Cattle.—"Logan." A judicious use of mercurial ointment will destroy lice on calves and all neat cattle; mix it with 3 or 4 times as much lard and apply a mass as large as a hickory nut behind the horns and along the back. It is dangerous used carelessly.

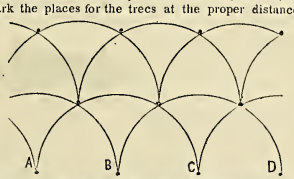
Snaring Woodchucks.—A. R. Taylor gives his method of catching woodchucks: A slip-noose about 4 inches across is made of fine copper wire; the wire extends about six inches beyond the loop and is fastened to a stake by a piece of strong cord. If the wire is fastened to the stake, the animal will twist it off; as he always bites at the wire near his neck, there is no danger of parting the string. The wire noose is placed at the mouth of the hole and catches the animal as he comes out. If the snare is pushed aside, it is too small and must be made larger, and if the hole is very large, it must be partially closed by a stone or piece of turf. The engraved diagram shows the stake, twine and wire noose.



Wool Washing.—"What deduction ought to be made for unwashed wool?" This question we are glad to see is being discussed a good deal among farmers. It is better for the farmers not to wash the wool on the sheep's back. When wool is unwashed, dishonest farmers can cheat more easily than if it is washed clean. No doubt the deduction of one-third is far too much on an average, and covers loss to the buyer even in very bad lots. What is a just deduction? A subscriber in Maryland washes his fleeces with great success in Doty's Washing Machine, the fleeces coming out beautifully clean, and in excellent order for sale or for carding.

A Queer Freak of a Pear.—Those who have paid any attention to the structure of plants, are aware that all their parts are considered as root, stem, or leaf, modified to serve particular ends. The flower is really a cluster of leaves adapted to a particular purpose, and the fruit is sometimes a modified, fleshy leaf; sometimes, as in the strawberry, the soft and pulpy end of the stem; and again, as is shown in the fig, (page 295,) it is a hollow, fleshy stem, with the remains of a vast collection of flowers. In the pear and apple, both the end of the stem and the calyx or leafy portion of the flower, become soft and juicy to form the fruit, and the points of the calyx usually remain at the top of the fruit, or at the end opposite the stem. Mr. I. Buchanan recently called our attention to some curious pears produced from a second crop of blossoms in his grounds at Astoria. There was a cluster of three, all curiously malformed. We have figured two of these of the natural size, the older and larger one is much like fig. 1, and both show the curious appearance of one fruit proceeding out of another. The sepals, or part of the calyx, are much enlarged, and stand around the secondary fruit, while from the apex of this there is a small projection indicating an attempt to produce a third. A dissection failed to show clearly the nature of these supernumerary fruits. The smallest specimen, fig. 2, has the parts of the calyx converted into small but well developed leaves, like the ordinary ones of the tree, showing that the calyx is really modified leaves and that this is an attempt at what is called "retrograde metamorphosis."

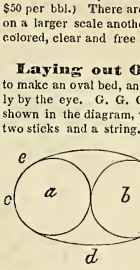
Planting Quincunx.—This is a desirable method of setting trees, in which the trees in one row are opposite the intervals of those in the next one. "V. G. P.," finds the following the easiest way to obtain the exact distances. First lay out the first row, *A* to *D*, and mark the places for the trees at the proper distances.

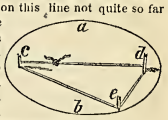


This can be done quickly by means of a cord of the right length, with a pointed stake of hard wood at each end. Setting one stake at *A*, the other will mark *B*, then the first stake can be carried over to *C*, and so on. Now to get the places for the next row, set one stake at *B*, and strike a semi-circle with the other and continue doing so from every place marked for a tree in the first row. The point where these semi-circles cross will indicate the places for the second row, and by using these points as pivots, the places in the third row will be found. The diagram will enable one to understand the manner of working. The dots represent the places for the trees.

Rosin Production in Michigan.—J. D. Sturtevant, of Muskegon Co., writes: "This season has been so dry that the farmers on our *oak openings* were obliged to resort to some other business besides farming for a living. Some two or three have experimented in rosin from the common white pine. The White Turpentine is saved as you propose on page 265 (Sept. No.), and simply boiled down, thereby losing *all* the oil or spirits of turpentine, but saving the *rosin*, a sample of which I send for your table. They think they can make money at it at one-half present prices, ($40 to $50 per bbl.) There are several going into the business on a larger scale another spring."—The sample is light colored, clear and free from specks, a very nice article.

Laying out Ovals.—It is often desirable to make an oval bed, and it is impossible to do it correctly by the eye. G. G. Crowley, strikes two circles, as shown in the diagram, which may be done by means of two sticks and a string. Then set the sticks upon the string as far apart as from *b* to *c*, place one point below *d*, which may be found by moving it until the other point will touch *e*, *e*, and complete the oval. The figure may be lengthened by placing the circles further apart. This is, however, not a regular oval, but parts of four circles. A true oval, which is the same at each end, is mathematically an ellipse. Such a figure is most conveniently laid out by marking out a straight line exactly where the long diameter of the oval should be, and setting two stakes, *c*, *d*, fig. 2, on this line not quite so far apart as you wish to have the length of the oval. Then pass a cord around both stakes and draw it out to about the width you wish the oval to be, and tie it. Then with a pointed stick at *e*, fig. 2, held within the cord as represented, draw the curve which will result from moving the stick, *e*, around, keeping the cord taut all the time. A very little shifting of the stakes, *c* and *d*, and a slight variation of the length of the cord will enable one to change the shape of the oval from a very long narrow ellipse to nearly a circle.





Plants to be Named.—Several persons have sent leaves only, which can not be identified with any certainty. Wm. Hall, Vernon Co., Wis., sends *Echinocystis lobata*, noticed in Sept. Basket.... Kate S. Wright; *Ampelopsis quinquefolia*, or Virginia Creeper, grown in shade.... A. J. L., Randolph Co., Ind., the shrub is the Shrubby St. Johnswort, *Hypericum prolificum*, and worth cultivating.... L. B. P., Weston, Vt. The shrub is not the Jersey Tea, but the Bush Honeysuckle, *Diervilla trifida*, closely related to the *Weigela*, from China, now much cultivated; the creeping thing is *Potentilla argentea*, the Silvery Cinque-foil, very common in barren soils.... M. R. A., *Celastrus scandens*, figured in August *Agriculturist*.... H. J. Ackerman: No. 1, is Golden Coreopsis, *Coreopsis tinctoria*, and No. 2, is Feverfew, *Pyrethrum Parthenium*, both common in gardens.... Lizzie W., West Charleston, O., Queen of the Prairie, *Spiræa lobata*, a fine native species worth removing to the garden. W. Ford, Rutland Co., Vt., and M. R. Dale, Daleville, Pa., *Adlumia cirrhosa*, a beautiful climber, called Climbing Fumitory and Alleghany Vine.... A. R. Gale, Fillmore Co., Minn.; *Gentiana crinita*, the Fringed Gentian, a beautiful late bloomer, in low grounds.

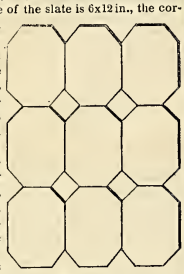
A Convenient Help in Tree Planting.—An account of a very simple contrivance for securing straight rows in orchard planting, was published in the *Agriculturist* for April, 1859. This article and the figure has been used by several journals without any credit, and we take this occasion to reclaim it, as well as to bring it to the attention of recent subscribers. The apparatus is simply a board about 8 feet long, with an augur hole near each end, and an opening from one side to the center, large enough to receive the tree. The diagram shows the shape. Besides this, a number of wooden pins will be required. Mark out the ground and put a stake in the exact place where each tree is to stand. Put the board down, with the center opening over the

stake, and drive two pins into the ground through the holes near the ends of the board. The board is now lifted off, leaving the pins in the earth, and the hole is dug for the tree. After the hole is made, replace the board on the pins, and the center opening will give the exact place occupied by the marking stake, and consequently the place to set the trunk of the tree, which may be introduced through the side opening in the board, and held there while the hole is being filled.

Grafting Grapes.—S. C. Frey, Clark Co., O., grafted his Isabella vines last autumn, with Delawares, according to the directions given in the September *Agriculturist* of last year. Mr. F. is so well pleased

with his success that he considers this hint alone worth many years' subscription. The excellent results we have seen induce us to recommend those who wish to graft their vines to try it this season, after the leaves fall, and any time before the ground is frozen. As the article is rather long, it is not possible for us to reprint it, and we refer to the Sept. No. 1863, which can be procured by those not having last year's volume, by sending 12 cents.

Slate for Strawberry Beds.—Rev. C. E. Little, Rutland Co., Vt., covers his beds with roofing slate. The usual size of the slate is 6x12 in., the corners are clipped from each slate by resting it on the edge of a board, and striking a blow with the side of a heavy chisel, and the slates are put together, as in the diagram. The slates are laid on the bed as the plants are set out, and the bed is surrounded by a board edging to keep them in place. The diamond shaped spaces in the diagram represent openings, where four slates join, and through which the plants grow. In England, tiles made for the purpose, are used in a similar manner to force the plants. Where slate can be readily obtained it may be worth while to experiment upon a small bed; Mr. L. claims several advantages for this method: that it saves labor of weeding; that it acts as a mulch, preventing evaporation, while the cracks between the slates allow the rain to pass through; that the slates absorb heat and hasten the ripening of the fruit; that runners are kept from taking root; and that the berries are kept clean.



Native Gooseberries. — "Progress," York Co., Me. The Houghton is said to have originated from the wild gooseberry, and doubtless other varieties might be obtained in this way, but we should rather start with the seeds of an improved sort like the Houghton.

Is the Currant a Berry? asks "An unconvinced Enquirer." Yes, and so is the gooseberry, huckleberry, grape, cranberry, tomato, egg fruit, etc., and so *are not* the raspberry, blackberry, strawberry, mulberry, etc. A berry is any fleshy fruit resulting from the ripening of a *single* pistil. The raspberry, etc., are collections of fruits from numerous and distinct pistils. Oranges and lemons are berries with very thick rinds. The berries of the gourd, squash, etc., where the rind becomes hard, are known as *pepo*, or gourd fruit.

Grapes and Apples in Virginia.—A. D. Ottarson, Jefferson Co., N. Y. The vine would doubtless do well on the banks of the Potomac. Norton's Virginia is one of the most prominent wine grapes; but before planting largely visit the vineyards of Missouri. The Baldwin seldom does well in southern localities.

Striking Cuttings.—"H. O. B.," Oskaloosa, Iowa, thinks that the method described on page 49 (Feb.), "is a humbug," as he tried it and failed. We have tried it and succeeded finely. All summer we have had a dish of wet sand in a handy place, and have put into it Verbenas, Petunias, Geraniums, of various kinds, Weigela, Ivy, Pilea, Cupheas, etc., etc., and have seldom failed to get roots. Try it again Mr. B.

Notes on Grapes.—From the number of samples of fox grapes which are sent for our opinion, it would seem that there are many persons who never tasted a good grape. The wild fox grapes vary greatly in size and color, and only differ in quality by some being a little worse than others. The best are only fit for wild boys and pigs, and no one who has tasted a Delaware, or a well ripened Catawba, will ever think of eating such fruit. The berries of the fox grape are often very large, globular or depressed (not elongated), with a very tough skin, a hard pulp containing three or four very large seeds, and a strong aroma which some persons profess to like, but which is exceedingly disagreeable to most people of cultivated taste. Grapes sent by S. D. W., and by A. Richardson, are of the common fox species. Mr. R states that his were raised from a raisin seed.—There must be a mistake, and the vine came from a seed already in the earth. No raisin seed could produce a fox grape. These and other similar specimens are utterly worthless, and the vines are occupying space which might be filled by good sorts. . *Hartford Prolific:* It has been unusually good this season. Its earliness is a very great recommendation.... *Rogers' Hybrid No. 3:* medium sized bunch, round berry of the color of the Diana. Ripe around New York the last of August. Sweet, and agreeable. Shows no signs of being a hybrid.... *Israella:* originated by C. W. Grant, very sweet, black, and ripening about middle of August, it promises to take the lead as an early variety.. *Underhill's Seedling:* Early, very sweet, but it has a thick skin and tough pulp, and can not be recommended ..... *Iona:* Mr. Fuller gave us the last week in August fine specimens of this really excellent grape. It is first class in every respect, and should it prove suited to widely different localities, it will become a leading variety.... *Concord:* Van Wyck and Johnson, Dutchess Co., N. Y., show four bunches of this variety which together weigh within 1 ounce of 3 lbs. They are covered with a fine bloom and are the best specimens we have seen.... *Delaware:* the same exhibitors show fine bunches of this splendid sort, three of which weigh 1 lb. 1 oz., and in size of berry excel any we have yet seen. The Delaware is apt to overbear when young, and this should be guarded against.... C. S. Halsey, N. Y., sends a seedling supposed to be from the Delaware. It may improve as the vine grows older, and is worth a further trial.

"American Grape Culture."—Conrad Witter, of St. Louis, Mo., has just published a neat little book on this subject in German, by Fried. Muench, of the same State, under the title "*Weinbauschule.*" The directions are very concise, but clear, and it is written in the pleasant style which has given the author so high a place among the German writers of America. An English Edition is promised.

Grape Pies—New and Good.—E. Kalle, Rushville, O., writes: "I have seen a good deal of grape pies, but never ate any as good as my wife makes. I would recommend every housewife to try her plan which is as follows: Pop the pulps out of the skins into one vessel and put the skins into another. Then simmer the pulp a little and run it through a colander to separate the seeds. Then put the skins and pulp together and they are ready for jugging or for pies. Pies prepared in this way can hardly be distinguished from plum pies."

Planting Small Fruits.—S. A. Smith, Green Lake Co., Wis., and others. Currants, gooseberries, raspberries, etc., may be planted in October. If done as soon as growth stops, the plants get well established, and on dry land, do better than spring planting.

Insects to be Named.—Some one has left a most singular caterpillar, found on a pear tree. In order to show it, it is necessary to give two views of the animal. Fig. 1, is taken, looking directly down upon its back; it appears completely overspread with a cloak or broad shield, which is dark brown and covered with short hair, and at the edges cut into long and unequal points or teeth. This cloak entirely hides the insect from view, and to see it, it is necessary to turn it sidewise, as in fig. 2. It is a caterpillar of the size shown in the figure, and having very short feet it moves with a very smooth gliding motion. On account of their slug-like movements the genus to which it belongs is named *Limacodes* (slug-like), and popularly called flag-moths, from the wrinkled appearance of the caterpillars. The species can not be made out without seeing the perfect insect. Another of an allied species was found on some grapes on our table. It had instead of the tunic, a horny shell. They turn into small brownish moths. Many insects, caterpillars especially, have been received in a condition which renders it impossible to identify them, and others have been laid aside for future study and report.

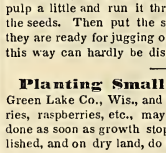


Fig. 1.

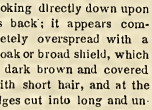


Fig. 2.

The Gopher.—T. M. Harley, Cedar Co., Ia. says that the statement quoted from Audubon on page 77 (March) to the effect that these animals do not carry dirt in their pouches, is wrong. He has himself seen them come from their holes with their pouches filled with earth and discharge it by quick strokes with their paws.

Steam Plowing—Meeting of the Royal Agricultural Society.—At the recent meeting and exhibition, at Newcastle, the chief interest was in the trial of *steam cultivators*, of which seven were exhibited. One machine was withdrawn, and in the course of the very severe tests which the trial elicited, no breakage of any account nor accident of importance occurred. The prizes have especial interest to us, as an American secured and shipped the 1st Prize machine to this country, and we may therefore expect soon to record trials on our own soil. The awards were: —1st Prize "For best application of steam power for cultivation of the soil," to John Fowler, £100. 2nd do. do. John Fowler, £50. 1st Prize "For best application of steam power adapted for small occupations," John Fowler, £50. 2d do. do. J. & T. Howard, £25. "Best plow for steam power," John Fowler, £20. 2d do. do. J. & F. Howard, £10. "Best cultivator for steam power," John Fowler, £17.10s. "For the best Steam cultivator and ridging plow combined," J. & F. Howard, £12.10s.

Other prizes were given, and "high commendation" for various improvements and articles connected with the new business, of which John Fowler came in for his full share. We understand that 100 of Fowler's engines complete are ordered for Egypt, and others for various other countries, particularly where cotton cultivation is being vigorously pushed.

Sorghum Cane Mills.—By a mistake the cut of an old-fashioned Cane Mill was inserted (in August No.) in the illustrated advertisement of Messrs. Blymyers, Bates & Day, of *Mansfield, Ohio*, not Cincinnati, as, apparently by a fatality, another error located them. Their Victor Cane Mill is several years ahead of the antiquated picture referred to.

Make a Sketch.—It often happens that communications are received which give an account of some implement or contrivance, apparently new and useful, but so imperfectly described that we can not be quite sure that we get the author's meaning. A sketch with the pen or pencil, no matter how roughly done, will often save a deal of guessing. If an engraving is desirable, our artists will put it into the proper shape.

Neglected Grass Lot.—"S.," your 2 acre lot which you want to keep in grass, and which is so much run down, ought to be "taken up" and well manured, and cultivated with hoed crops for a year or two, and then seeded down either alone or with a grain crop. Or you may manure and plow this fall and seed down along with spring wheat. Or if you are bound not to plow it, give it a good top-dressing at once, and in spring sow plaster and wood ashes—a pretty liberal supply.

Deep Working Heavy Soils.—"A. S.," asks for the experience of readers of the *American Agriculturist* in deepening clay soils by subsoiling, that is, simply stirring the subsoil, or by bringing the subsoil upon the surface, as by the Double or Michigan plow. The former may be practised without danger to the immediately succeeding crops, but deepening of all clays, heavy loams, or gravelly soils, with hard-pan underlay, must be gradual, or the land may be spoiled for a year or two, and sometimes longer, by mingling with the soil the deleterious, and even poisonous substances in the untamed substratum. We shall always be happy to receive the facts and views of our readers on this subject.

Ice-House Queries.—"P. G.," the room 15 feet square in your cellar might do very well as an ice-house. Make an inner wall on all sides, and fill with sawdust, cement the ground to form a basin, and provide drainage as described on page 291, and have a good sized ventilator communicating with the outer air at the top. It will have a greater or less effect on the temperature of the cellar, according to the thickness of the walls.... "J. G. H.," Berkshire Co., Mass. The object of ventilation is to remove the damp air from above the ice, to keep the surface covering of straw dry, and thus interpose a non-conductor of heat between the ice and the roof, which becomes of necessity more or less heated. When the air is damp, as it is when in contact with the wet straw, and there is no ventilation, the melting of the ice upon the surface is often quite rapid... Joseph Mayer, Rockford Co., Ill. There is no reason why Western people may not make excellent ice-houses of straw; in fact, a great compact pile of ice will keep well, if placed where the drainage is good, and covered on all sides with straw, closely packed and made to shed rain.

Cold Pits and Frames—Cheap, Easily Made, and Useful.—These are very useful and convenient to protect cabbage plants, cauliflower, etc., in the kitchen garden, as well as where there is no green-house, to winter over roses, pansies, carnations, and other half hardy things from the flower garden. A COLD FRAME is simply a hot-bed frame with its sash, set over a dry spot facing the south and banked around with earth. In other words, it is a box of any convenient size or form, banked around with earth, and covered with a window sash, or better with a sash made so as to let all water run off freely. Pansies, violets, candytuft, etc., set out in this may be had in flower nearly all winter. The plants should have air during the middle of every mild day, but in very cold weather the sash is not only to be kept closed, but covered with shutters. Early cab-

bages sown in September or October, are planted out in a cold frame when about two inches high and treated in the same manner.——A Pit is prepared by excavating the earth to a depth of from two to six feet, according to the size of the plants; a frame of stout plank is then built up within this. The pit should be of a width and length to accommodate several ordinary hot-bed sashes. The planking should be about a foot higher on the rear side than on the front, in order to give the sash the proper slope. The edges of the plank frame are to be bevelled in order to make a close joint, and all the arrangements for supporting the sash the same as in an ordinary hot-bed. It will be found much cheaper in the end to make a permanent structure by walling up the pit with stone or brick, upon which a frame of joist to receive the sash is laid in mortar. The portion of the lining above ground, whether of plank, stone, or brick is to be nicely banked up with earth, and it is better to turf it to prevent washing. If the pit is not in a very dry sandy spot, provision must be made for drainage. The bottom of the pit may be covered with sawdust, tanbark, or even coal ashes, in which to immerse the pots. Roses, camellias, the more hardy fuchsias, cauliflowers in pots, and many other plants may be kept through the winter in a pit of this kind, observing the precautions regarding air, light and protection mentioned above. Mice are often troublesome and must be trapped or poisoned.

Dried Pumpkins and Squashes.—An old-fashioned but not a bad way to dry these fruits is to remove the rind, then cut them in cross-slices of about half an inch thick forming rings, and suspend them in warm, dry places near the fire; or running a pole of suitable length through many of them, to place them in a moderately hot oven, after the bread is removed. The heat should be not enough to cook, but only to dry them.

The Crops over the Whole Country.—Taking a general view of crops of grain, grass, roots, fruits, dairy products, and purely commercial crops, this year bids fair to prove one of great prosperity to the husbandman. There is no old corn at the West; the new crop, on the whole, large but backward in some sections. Sorghum promises a fine yield so far as we have intelligence. The tobacco crop is reported not quite so large as common. The amount of flax raised is large, and the stock of beans and peas much increased over former years. The potato crop has not been much affected by the rot, and there is a full supply. Other roots promise well. Frosts hold off generally up to the time we go to press. Eastern markets have never been better supplied with orchard fruits, especially peaches and plums. Winter apples, however, appear much earlier than common in market, in such numbers, that we may confidently expect there will be a scarcity before the close of Winter.

New England Agricultural Society Fair.

Owing to several circumstances, we have been disappointed in not being able to personally visit many of the fairs. The more important have been very successful and well attended. The first fair of the New England Agricultural Society drew together, at Springfield, Mass., a great concourse of people, among them many of the best farmers of New England and other States. The show, on the whole, was fine; but the cattle men and real farmers were slighted, and crowded one side by the horse-show; trotting horses "won the money," and absorbed the interest of the crowd of spectators. Shorthorns, Devons and Ayrshires were well represented, but the Alderneys made an inferior show. Swine, very meagre. There were, however, fine representations from some of the best Eastern flocks of fine wool, and other sheep. We are constrained to say that such a body as the New England Agricultural Society should not by the offer of premiums, and by all other means, secure the presence of horses noted for speed, in order to attract a crowd and fill its treasury. The thing is foreign to the interests of the farmer—in fact our stock of horses has been deteriorated by this trotting business, to say nothing of the morals of our sons.

Constitution of a Farmers' Club.

Art. I. The name and title of this association shall be "The Schaghticoke Farmers' Club," (do not call it "Union Agricultural Society.",), and its objects are to disseminate a knowledge of good farming among its members, to afford a means of distributing seeds, grafts, cuttings, and the like, to collect statistics of agricultural matters, to discuss all topics affecting the prosperity of its members as farmers, viz., markets, crops, agricultural laws, etc.

Art. II. All inhabitants of the village of Schaghticoke, or vicinity, may be members of the Club, by attending its meetings, but only those contributing $1 or more yearly, shall have a voice in using or disposing of the property or funds of the Club, directly or indirectly.

Art. III. The officers of the Club shall be a Chairman and Vice-Chairman, selected at each meeting for the next. A Secretary (who may also be the Treasurer,) shall be elected not oftener than at every fourth meeting, and shall serve till another is appointed. The Secretary shall in addition to the ordinary duties of such an officer, be the responsible business man of the Club, having charge of the funds or other property of the Club, and reporting regularly, at least annually or at the close of his term of office.

Art. IV. The Framers and Signers of this Constitution may by a two-thirds vote, add to their own number such persons as they may elect, and two-thirds of these if present at any meeting, may also by a two-thirds vote, alter or add to this Constitution, or frame by-laws, etc.

The American Pomological Society.

The Biennial Session of this Society commenced at Rochester, N. Y., Sept. 13. One of our Associates who is present, writes: "The attendance is quite large, there being delegates from nearly every loyal State. Doct. J. A. Warder, of Ohio, Vice-President, occupies the chair—the President, Col. Wilder, of Boston, being prevented from attending. He is re-elected President, with a large number of Vice-Presidents, and James Vick, Rochester, N. Y., Secretary. Among well-known pomologists present, we notice Warder, Bateham, Campbell, and Beeler, of Ohio.; Edwards, and Muir, of Mo.; Knox, and Dreer, of Pa.; Sanders, of D. C.; Hovey, of Mass.; Downing, Carpenter, Field, Mead, and others, of Eastern N. Y., and many from Rochester, and Western N. Y. The discussions thus far have been mainly confined to grapes, and have shown an earnestness to get at facts, with little of the loose talk that too often characterizes such meetings. There is a good show of fruit, but it is mainly from the extensive Nurseries around Rochester. The display of grapes is interesting, as there are specimens of many sorts not generally cultivated. The grape show, as a whole, is inferior to that held at the Office of the *American Agriculturist* last year, and there were on the Tables at our Office, when I left, far better specimens of Delaware and Concord, than are shown here. My notes on the grapes and other fruits can not reach you in time for the October number." The next Biennial Meeting (1866) is appointed for St. Louis, Mo.

Agricultural Exhibitions in October.

New Brunswick. Fredericton, Oct. 4—7.

Maine. York Co., John Hansome, Sec..at Saco and Biddeford, 11—13.

New Hampshire. Merrimac River Association, V. C. Gilman, Prest., Nashua, 5—6.

Vermont. Connecticut Valley, Bradford, 4—6.

Massachusetts. Bristol Co., Taunton, 4; Berkshire Co., Pittsfield, 4; Hampden Co., Springfield, 4; Barnstable Co., Barnstable, 4—5; Hampshire, Franklin and Hampden Cos., Northampton, 6; Worcester Co. South, Sturbridge, 6; Plymouth, L. Keith, Sec., Bridgewater, 6—7; Hampden Co. East, Palmer, 11; Hampshire, Amherst, 13; Martha's Vineyard, West Tisbury, 18.

Rhode Island Horticultural Society Grape Show, C. F. Phillips, Committee, Providence; time?

Connecticut. Greenwoods. Winsted, 5—6; Middlesex, Middletown, 5—6.

New York. Chautauqua Co., Fredonia, 4—6; Lewis Co., Turin, 4—6; Otsego Co., H. H. Hooker, Sec., Cooperstown, 5—6; Queens Co., Jamaica, 5—6; Dryden, at Dryden, 5—7; S. Snyder, Sec., half proceeds to San. and Chris. Commissions; Wilson, Porter and Newfane, at Wilson, Niagara Co., 6—7; Orange Co., Goshen, 4—6; Westchester Co., White Plains, 11—12; Tompkins Co., Ithaca, 11—12; Brockport Union, Brockport, Oct. 19.

New Jersey. Burlington, Mount Holly, 4—5; Warren County, Belvidere, 4—7; Egg Harbor City, 6—7.

Pennsylvania. Luzerne Co., Wyoming, 5—7; Crawford Co., E. L. Litchfield, Sec., Conneautville, 5—7; Susquehanna Co., Harford, 4—6; Indiana Co., Indiana, 4—6; Union Ag'l Ass'n, Burgettstown, Wash. Co., 6—7.

Ohio. Medina Co., Medina, 3—5; Butler Co., Hamilton, 4—7; Lorain Co., Elyria, 4—7; Mahoning Co., Youngstown, 4—7; Morrow Co., Mt. Gilead 5—7; Union Co., Marysville, 5—7; Muskingum Co., Zanesville, 6—9; Fayette, Washington, 7—9; Richland, Mansfield, 7—9.

Indiana. Laporte Co., Laporte, 12—14.

Illinois. Stephenson Co., Freeport, 4—7; Washington Co., Nashville, 5—7; DeWitt Co., Clinton, 5—8; Vermillion, Catlin, 11—14; Morgan, Jacksonville, 12—14; Henry Co., Cambridge, 4—7; J. Calvin Edwards, Sec.

Michigan. Kalamazoo Co., Frank Little, Sec., Kalamazoo 6—8; Clinton Co., 5, and Johns, 6—7;

Wisconsin. Vernon Co., Viroqua, Wm. S. Purdy, Secretary, 4—6; Iowa County, Dodgeville, 12—14.

Kansas. Bourbon County, at Fort Scott, 15—16.

Canada. North Ontario, E. D., Prince Albert, 11.

Exhibition Tables at the Office of the American Agriculturist.

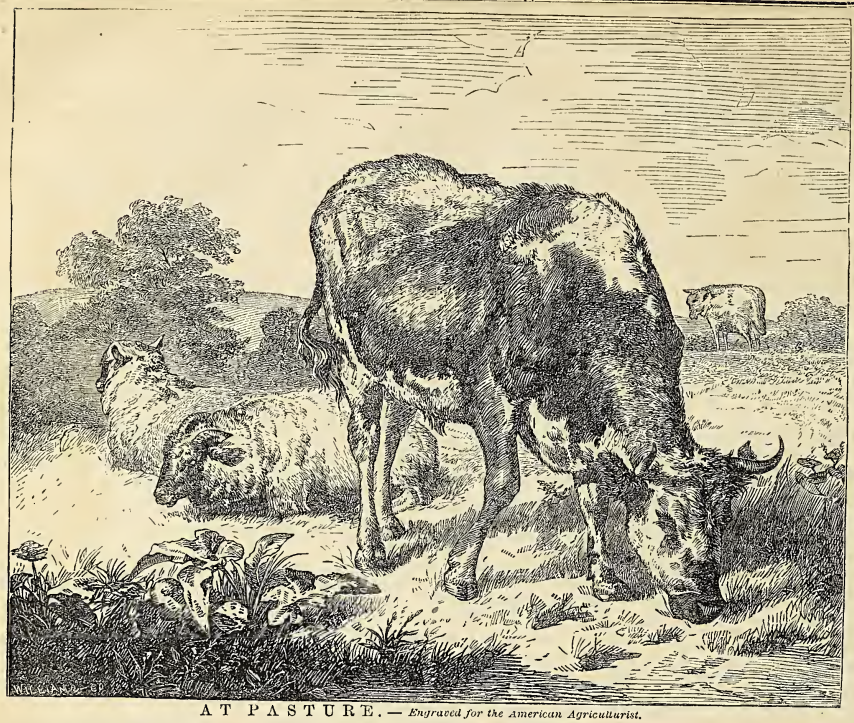
The following articles have been placed on our tables for exhibition since our last report:

Fruits.—*Apples*: Siberian Crab: Mr. Kissam, Jersey City, N. J ...Summer Harvest and Summer Queen; Dr. I. M. Ward, Newark, N. J....Suffolk Beauty; H. A. & E. L. Brown, Deer Park, L. I....Summer Porter; E. Williams, Mont Clair, N. J:...Kelsey, Golden Pippin, Fall Pippin, Gravenstein, and Waxen; P. H. Ashton, Middletown, Conn ....Maiden's Blush and Summer Pippin; E. F. Fowler, South East, N. Y....Fall Pippin, fine; Mr. Jackson, Sing Sing, N. Y....*Pears*: Duchess of Wurtemburg, Doyenne Boussock, Bartlett, William the Fourth, and White Doyenne; J. Van Brunt, Fort Hamilton, L. I....Ravenswood, original, and on Quince; C. F. Erhard, Ravenswood, N. Y....French Jargonelle and Osband's Summer; W. S. Carpenter, Rye. N. Y.... Osband's Summer, J. Van Brunt, Fort Hamilton, N. Y.....*Grapes*: Concord; William King, Perth Amboy, N. J.. Logan and Hartford Prolific; Dr. Hollick, Staten Island, N. Y....Allen's Hybrid, and Iona; Dr. C. W. Grant, Peekskill. N. Y....Concord, and Delaware, fine: James Keeley, Paranus, N. J....Seedlings; F. W. Louden, T. Briggs, Schaghticoke, N. Y.; Wm. Underhill, Charlton, N. Y....Hartford Prolific, and Concord; P. H. Ashton, Middletown, Conn. Delaware and Concord, finest; Van Wyck & Johnston; Fishkill, N. Y....Grape blossoms and small fruit, second growth; A. W. M. Hume, Manhattanville, N. Y.... *Other Fruits*: Bolmar's Washington Plums; Samuel Cooper, Tompkinsville, N. Y....Cut-Leaved Blackberries, fine; John Cole, Tompkinsville, N. Y... Newington Nectarine tree, in pot, on almond stock, in full bearing; Lewis Schmidt, gardener to James Brown, Clifton, N. Y....Figs, very fine; Henry Miller, East New York ... New Rochelle Blackberries; Geo. Warner, Bloomingdale. N. Y., John Cole, Tompkinsville, N. Y., and C. S. Pell, N. Y. Orphan Asylum....Wild Blackberries; W. R. Field, Mount Hope, N. Y... Crown Bob Gooseberries; John Hunter, Shark River, N. J.

Flowers.—Beautiful Bouquets of Grasses, Japan Lilies, Roses, Tuberoses, Balsams, etc.: Miss M. A. Cortelyou, Westfield, N. Y., to whom our tables are indebted for many embellishments during the whole season.... Japan Lilies, Carnations, Dahlias, and Tuberoses; C. S. Pell, N. Y. Orphan Asylum....French Asters, fine; G. Craft, N. Y. City ...Night-blooming Cereus, Lemon Verbenas, and Rose Geraniums; Mr. Cummings, Westchester Co., N. Y....Gladiolus, and Asters, fine collection; C. H. Lillienthal, Yonkers, N. Y....Double Balsams; W. W. Denslow, High Bridge, N. Y....Double Sunflowers; Mrs. W. B. Young, Middletown, N. J....Bilbergia Leopoldii in bloom; Dr. Peyton, South Bergen, N. J... Dahlias, fine show; C. S. Pell, N. Y. Orphan Asylum.. Large Sunflower; E. Dutcher, Blauvelt ville, N. Y..... Orchids, Stanhopea oculata, and S. saccata, and splendid Double Zinnias; Isaac Buchanan, Astoria....Bouquet of Cut-flowers; E. C. Chateneuf, Williams' Bridge, N. Y... Fine Seedling Phloxes: E. G. Burgess, Jersey City, N. J.

Vegetables, etc.—Fine Buckeye Potatoes; James Holbrow, Walden, N. Y.. Tomatoes; Louis A. Berte, Tremont, N. Y., John Cole, Tompkinsville, N. Y., Deaf and Dumb Institute, New-York City, and G. W. Usher, Port Richmond, N. Y....Teasels, fine; W. J. Townsend, Skaneateles, N. Y.....Northern Iowa Corn, from Winneshiek Co., Iowa....Early Potatoes; Wm. Cox, West Hoboken, N. Y....Red and Yellow Onions; D. C. Ryder Sing Sing, N. Y:... Prairie Seedling Potato; W. S. Carpenter, Rye, N. Y....Chinese Sugar Cane; P. H. Ashton, Middletown, Conn....Blue Stem Wheat, very fine, 54 inches high; David Young, Oyster Bay, N. Y....Chess (*Bromus Secalinus*); Wm. Lalor, Geneva, N. Y. ..Canadian Winter Barley, 56 heads, 1,500 kernels, from one seed; W. H. Lester, Dobbs Ferry, N. Y....Winter Wheat from California Seed; James Thompson, Basking Ridge, N. J....Potatoes, Early Cottage, Shaw, Samaritan, Buckeye and Algiers; W. S. Carpenter, Rye, N. Y.. Large Purple Egg Plant; W. P. Robinson, English Neighborhood, N. J....Fejee Tomatoes; Mr. Sussdorf, Woodside, N. Y.

Miscellaneous.—Rebel Shell and Solid Shot which struck near Mr. O. Judd, before Petersburg, Va.... Tomato Worms covered with cocoons of Ichneumon fly; Nest of young Robins, one perfectly white; C. S. Haley, Newmarket, N. J....Tarantula Spider, very large, from St. Domingo, W. I.; T. H. O'Donoghue, New-York City. ....Hen's Egg, 3½ oz.; George F. Gantz, Tubby Hook, N. Y....Bantam Hen's Egg; John A. Scott, Mt. Vernon, N. Y.....Shark's teeth, etc., found in a marl pit, 20 feet below the surface; John Hunter, Shark River, N. J.



AT PASTURE.—*Engraved for the American Agriculturist.*

Fall Feed for Cows.

It's of no use to think of keeping up the quantity and quality of our butter, if we neglect the fall feeding of our cows. When the grass has been bitten by the frost several times, it loses its sweetness and its substance. There may be enough in bulk, but the animals do not like it as well, and it does not make as much milk or fatness. The pasture feed must be gradually supplemented by fodder. And we can well afford to go to the trouble and expense of it, for butter sells at very remunerative prices. Corn stalks not yet dry will generally be eaten up clean, and a few thrown out morning and night are not only relished, but have a direct and marked effect on the milk product. Sweet apples especially, fed in reasonable quantities, are good; but do not let the cows have the run of the orchard. Pumpkins are first-rate, a few at a time, twice a day, with all the seeds removed. Cabbage leaves, beet and turnip and carrot tops, and such like garden refuse, are excellent. A little dry hay may also be given to advantage, feeding out only what will be eaten up clean. A few pints of bran or corn meal, or a few ears of soft corn, or some oil meal may be fed daily. Yet the change from simple pasturage to this extra feed should be made gradually. All acknowledge the importance of this carefulness in spring, when passing from dry feed to grass. There should be similar care exercised in the fall, or the yield of milk will fall off. Cows or sheep that are in good flesh, not to say fat, at the beginning of cold weather are half wintered. Just now it is that feed tells best. The fresh bracing air gives an appetite; the annoyance of heat and flies does not wear off the flesh; animals can feed all day and sleep all night, and the weather is not cold enough to make it necessary to consume much of the food or of the fat, to keep up the animal heat.

Veterinary Physicians and Surgeons.

The almost utter lack of reliable veterinary practice in this country is a matter of the weightiest concern. We are in the constant receipt of letters describing disease and death among animals, to which, of course, we can not reply satisfactorily. Now and then one forms the subject for a basket item, but it is a very wrong thing in general to attempt to prescribe or give particular advice for either live stock or mankind, depending upon descriptions of the disease received by letter and not from professional men. Every other civilized country in the world has its veterinary schools, encouraged or supported by Government. Many Governments give the graduates of these institutions employment with permanent situations, locating them in different parts of the State, so that at a moderate rate anybody may consult them. In this country we have here and there a few second rate veterinarians, and a very few who may be considered really scientific men. Horse and cow doctors, such as they are, abound: they bleed, bore horns, dock horses' tails, blister and physic all the animals they can get placed in their charge. Most of them have been graduated as jockeys or stable boys in the city, or as blacksmith's clerks in the country. It is an art with them to get horses to "doctor." They involve the simplest ailments in mystery, and a horse once in their hands is kept sick and at charges as long as possible.

We ought not to be content to suffer this condition of things. The owners of fine stock in the country, the officers of our agricultural, and stock-breeding societies ought to bestir themselves. The State boards of agriculture should be stirred up by way of remembrance, to act. Legislative aid should be obtained, to send young men abroad to become well educated veterinary physicians. They would have large practice just as soon as the people could be convinced that their knowledge was founded upon real science and not quackery—and we might soon be able to have veterinary schools and hospitals connected with the agricultural colleges now likely to be soon established in almost every State. At least a professorship of veterinary medicine and surgery ought to be required by the act of incorporation of these institutions. Already the tendency to turn the farmers off with a professorship or two in connection with an institution devoted to commercial and industrial education, is to be observed among those interested in the agricultural college grants. We ought to talk up this matter, to read up upon it, to discuss it at every Farmers' Club, at the meetings of the agricultural societies, at Legislative farmers' meetings, and wherever farmers get together. Incite promising young doctors to turn their studies in this direction where the way is open, rather than have to elbow their way through life in the crowded ranks of the regular medical profession. Good results will surely come of any movement honestly made for the promotion of sound veterinary knowledge and practice.

Digging and Sweating Potatoes, etc.

This season has been of a character to make many small potatoes, and these have a value for making pork not to be disregarded. We have never tried letting the pigs do the gleaning, and possibly this would save both the potatoes and the labor. When potatoes are dug, do not neglect putting them in heaps to sweat. The heaps should each contain about a cartload of merchantable potatoes; they should be covered with tops and left three days to a week, then sorted over and barreled, or put in on a bright dry day. When barreled, abundant ventilation is requisite, two 2-inch augur holes in every third stave and four in each head will answer.

SAVING SEED.—While the vines are thrifty, examine them; if any doubtful plant is found, dig every potato in the hill. Finally, dig them yourself and keep a basket for the product of any hill in which there is a suspicious looking tuber. Potatoes do not mix in the hill, but now and then a seedling or a tuber left in the ground, makes a mixture even in carefully planted lots.

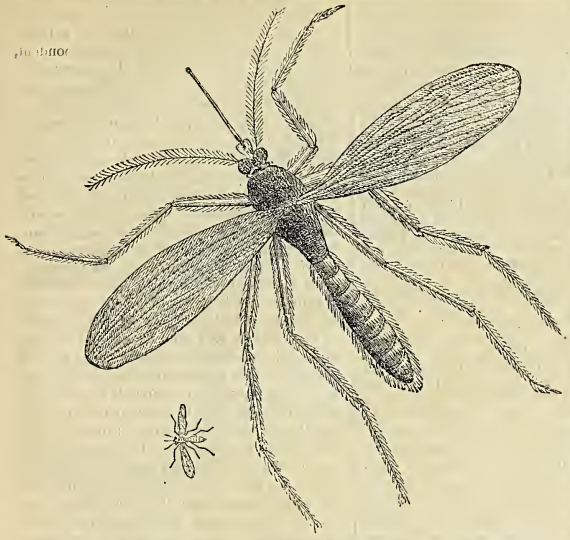


Fig. 1.—FEMALE MOSQUITO.—NATURAL SIZE, AND GREATLY MAGNIFIED.

The Life of the Mosquito.

Some one once wrote a book, called "The Miseries of Human Life," professing (or intending) to record and discuss every possible discomfort, from a cold breakfast to a missing shirt button. The book was incomplete, however, as it lacked a chapter on the mosquito. The omission may be accounted for by the fact that the writer lived in old England, and not hereabouts—the very paradise of mosquitoes. The reader has probably many a time this summer exercised a little strategy with the mosquito, and when it was fairly settled, made a dexterous flank movement, come down with a slap, and exclaimed, "I got him this time." You were all wrong, you did not get *him* at all, but you probably succeeded in crushing *her*. One of the Turkish Sultans believed that a female was at the bottom of all mischief, and when any disturbance took place in his dominions his first question was "who was she?" "The old brute," you will say; well he was a brute, and the only excuse we can make for him is to suppose that having a taste for entomology, he had been studying mosquitoes, and finding that the females alone did the mischief, applied his knowledge to human affairs.—Did it ever occur to you, when by a well directed slap you demolish a mosquito, that you destroy a very beautiful, and in spite of its blood-thirsty propensities, interesting object? By the aid of some magnified figures we can show that this is the case. In the first place, let us dispose of the male insect, fig. 2, which is readily distinguished by his plumes. He has the negative quality of not annoying us, lives but a short time, and what little food he requires he gets from flowers.—Fig. 1 shows the female, more magnified, and armed with her formidable proboscis. To understand her history we must go back to the egg. The female lays her eggs upon the water; finding a suitable place she supports herself by her two pairs of fore legs, and crossing the hinder pair like a letter X, she deposits the eggs one after another, in this support made by the legs, putting them endwise, side by side, and sticking them firmly together by means of a glutinous secretion which covers them. When the mass is complete, it is of the shape of a little boat, fig. 3, consisting of from 250 to 350 eggs, which is set afloat and abandoned to its fate. This little raft floats persistently, it will not sink, nor will hard usage break it up, nor freezing destroy the vitality of the eggs. In a few days the larvæ, as the first stage of the insects is called, are hatched, make their way out of the under side of the egg, and go off in search of food. Fig. 4, is the full grown larva, much magnified, with one of the natural size at the left hand. They may be seen in any vessel of rain water that has been exposed for some days during summer; from their peculiar manner of locomotion they are called "wigglers." The projection, *A*, near the tail, is a tube of hairs through which the wiggler breathes. When not disturbed it rests with its head downward, and with this tube at the surface of the water, but on the approach of danger it rapidly wiggles itself to the bottom of the vessel. After wiggling through 8 to 15 of the first days of its existence, and casting its skin two or three times, the mosquito goes into the pupa state, fig. 5. In this condition it swims with its head upward and though not so lively as before, it moves and tumbles about by means of some paddles at the end of its tail. While in the pupa state it takes no food, and its breathing arrangements are quite reversed, for instead of respiring through the tube at the end of its tail, it is furnished with two tubes at the head, through which it takes in air. This state of things lasts from 5 to 10 days, when the skin bursts and the perfect insect comes forth. This is a most critical period in the life of these insects, and they only can emerge with safety on a very still, sunny day. The skin of the pupa bursts open on the back and the insect first protrudes its head, then its chest gradually follows, and it stands erect in the shell with its legs still confined, and its wings limp and damp. The slightest breeze at this time would upset the frail boat, and the insect would be drowned. But a very small proportion of the whole succeed in passing this last transformation in safety. Soon the front pair of legs are extricated, and placed upon the water, as shown in fig. 6. This enables the insect to steady itself, and much diminishes the danger of upsetting. The sun speedily dries the wings, which are gradually expanded; then the other legs are drawn out and placed on the edge of the pupa case, the antennæ and proboscis are elevated and the insect is able to quit its watery abode and fly off to serenade us with its shrill note, and to relieve us of our surplus blood. Naturalists are not agreed as to the manner in which the mosquito produces its peculiar and annoying sound; it is thought by some that the wings alone do not cause it, but that they are aided by the rapid vibrations of the muscles of the chest. It is said that the wings vibrate 50 times in a second. If the cause of the song of the mosquito is not well understood, such is not the case with its other annoying peculiarity—its sting. Here the object is so small that the microscope must be called to our aid. When examined by the glass, the sting of the mosquito is found to be a very beautiful as well as complex instrument. Some dissections of the apparatus are given in fig. 7. *A*, shows the sting as it appears in its sheath when entire; *B*, shows the same with a part of the sheath removed. The parts of the sucker, with its lancet-shaped blades, are shown at *C*. The wonderful fineness of these points is seen in the ease with which they penetrate our thick, tough skin. The sting itself would cause us but little annoyance, were it not that the proboscis gives off an irritating secretion which inflames the slight wound, and in some persons

Fig. 2.—MALE MOSQUITO.

Fig. 3.—BOAT OF MOSQUITO EGGS.

Fig. 5.—PUPA.

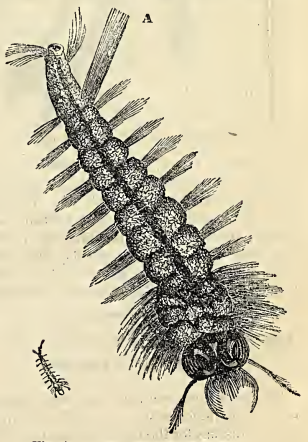


Fig. 4.—LARVA OF THE MOSQUITO.

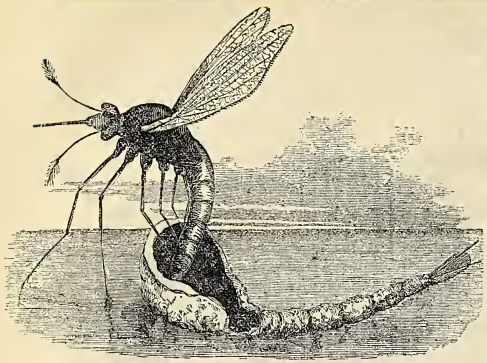


Fig. 6.—PERFECT INSECT EMERGING.

causes a painful swelling and even troublesome ulcers. This is intended to give an idea of the structure and habits of mosquitoes in general, and not of any particular species. Our mosquitoes belong to the genera *Megarhinus*, and *Culex*, but they do not seem to have been thoroughly studied, and there is much confusion among naturalists concerning them. It is somewhat consoling to know that but a small proportion of the wigglers ever reach the perfect state. Myriads are lost in the process of liberating themselves from the pupa case. The stillness of the air, or otherwise, at this particular season in the life of the musquito, explains why the insects are so much more abundant in some

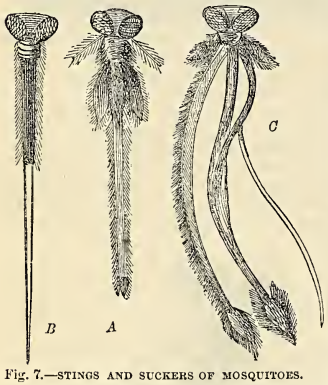


Fig. 7.—STINGS AND SUCKERS OF MOSQUITOES.

years than in others. Great numbers are devoured by Dragon-flies, which at the South are called "mosquito hawks." We have seen mosquitoes so plenty near New Orleans, as to darken the wall of a building upon which they were resting during the day time, while great numbers of these mosquito hawks were flitting about and devouring them by thousands.

About Charcoal as a Deodorizer and an Ingredient of Manure.

The errors of reading and thinking men sometimes indicate subjects which it is profitable to discuss for the better information of the public. The subscriber sending the following will therefore, we hope, excuse the use made of it.

"Wherever the refuse of coal pits or bins can be bought, few things are more useful to the gardener. Charcoal acts as an absorbent of the gases from decaying animal and vegetable matter, and the product when applied to growing crops becomes a powerful fertilizer. From the fact that charcoal dust rubbed over tainted flesh and allowed to remain on it a few hours will remove all unpleasant smell and taste, it has sometimes been inferred that it acts as a *preservative* from decay. This is a mistake. It takes up the noxious gases, and holds them in its cells, but does not arrest decomposition. The bodies of two dead dogs were placed in a wooden box, and covered several inches thick with powdered charcoal, and the box left open. No effluvia was ever perceptible; yet at the end of six months little remained but the bones. This shows that charcoal absorbed the gases of decay, but did not stop it. These odors, offensive and hurtful to mankind, it stores away and holds until wanted for use in promoting vegetable growth. Obviously, then, we should use charcoal dust about our privies, sinks, drains, stables, or wherever there is any decomposition going on."

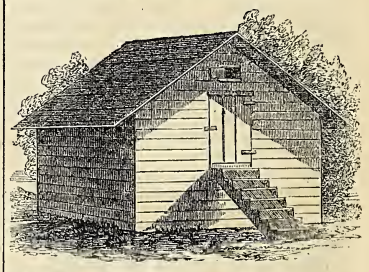
Wrong! The facts are *true*, the main ones,—the deductions, obvious perhaps, but *false*. Charcoal is one of the most porous substances. The wood from which it was made consisted of oxygen, hydrogen and carbon; the burning drove off the oxygen and hydrogen, and left the carbon. The plant cells of which the wood was formed are by the burning all opened, and each minute cell has an outside and inside surface, the form of which is perfectly retained in the coal. This shows that an almost inconceivable extent of surface is exposed. Much as if in a bushel of turnip seed the insides were all out, leaving nothing but the shell-like skins. The minute plant cells making up the wood, consisted of innumerable particles, each containing 12 atoms of carbon, 10 of hydrogen and 10 of oxygen. And although these compound atoms of cell-substance are so small that the most powerful microscopes can not show them, yet we know that each consists of the atoms, and in the proportions named. When, therefore, all but the carbon is driven off by heat, most of the carbon, which the heat can not fuse, remains filling the space which it originally occupied in connection with the other elements, as an exceedingly porous mass, infinitely increasing the surface exposed to the action of gases.

Charcoal has, in common with many other substances in a state of very minute subdivision, the property of condensing upon its surface various gases, some more than others. Thus, when a piece of charcoal freshly heated is placed in a jar of oxygen gas, it will absorb many times its own bulk, the gas not filling the coal as water fills a sponge, but being condensed upon the surface, as the moisture in a room is condensed on the window panes in winter. The most wonderful fact about this condensation of gases in such materials is, that after all the oxygen or other gas, possible, has been taken up, the coal or porous body is capable of absorbing still other gases to a great extent. Fresh charcoal will absorb 80 to 100 times its own bulk of ammonia, but it will part with all, or nearly all, in presence of water, or moist air.

When different gases capable of combining mingle in the air, if they combine at all, they often do so very slowly, but when they come together condensed in the pores of the charcoal, chemical union very easily takes place. So it is, that when the products of the decomposition of animal substances, etc., being in the gaseous form, are absorbed by charcoal, the oxygen of the air being absorbed at the same time, the oxygen at once combines with them and burns them up, just as if they burned in a flame.

In the case mentioned by our correspondent, the air and warmth caused the dogs to decompose; the charcoal absorbed the gases and caused them to unite with oxygen, so that carbonic-acid gas, water, and ammonia were the principal results. These, for the most part, were *not* retained by the coal, (though some of the ammonia was,) but they escaped into the air. Under such circumstances the smell of ammonia may be perceived, but is not very observable. When charcoal dust is mixed with decomposing substances, the facts that concern us, are, 1st, that it prevents bad smells; 2d, that it absorbs a portion of ammonia, (i. e. carbonate of ammonia); 3d, that it thus becomes of fertilizing value; 4th, that when employed in moderate quantities, it will soon take up all the ammonia it is capable of retaining and the rest will escape, and thus considerable losses may occur; 5th, that the quantity of ammonia taken up and retained is very variable, and may be very little; 6th, the presence of charcoal causes a much more rapid decomposition than would otherwise occur, for it brings a large supply of oxygen, which it condenses from the air, almost in immediate contact with the decomposing matter. This is the secret of its purifying tainted meat, for the action of this oxygen, influenced perhaps by the presence of the charcoal, is to cause the thorough consumption or burning up (the oxidization) of all those particles of the outside of the meat which have become tainted.

It is clear then, that charcoal dust ought *not* to be mixed with manure, in the hog-pen, in the privy, or anywhere; that animal matter ought *not* to be composted with charcoal, even if a very large quantity be used. If the substance be mixed first with charcoal, and then covered with soil or muck, little loss will take place and the coal will be a real benefit.—Mechanically and chemically charcoal is often of great benefit to the soil. As a stomachic and corrective it is excellent to mix with the food of animals, hogs especially, if needed medicinally.



Ice-Houses—Drainage and Ventilation.

Many inquiries are proposed to the *Agriculturist* in regard to ice-houses. Where to put them? How to drain them? How and why to ventilate them, etc. One subscriber "can't make his ice keep after July or August." Another building his house altogether above ground, allows a circulation of air among the rails on which the ice is laid, and wonders why it does not keep better. Now, ice-houses are quite as good entirely above ground as below, and on some accounts we think better. Good walls of wood filled in with sawdust are much better non-conductors of heat than stones, even though a board lining, packed well with sawdust between it and the stone wall, be provided. The

cost of excavation and walling up yields no corresponding benefit. The ice-house ought to stand in the shade of trees, and, if possible, on a north slope, with end toward the hill.

We give a sketch (fig. 1,) of an ice-house seen from the up-hill side. Fig. 2 is the ground plan showing how to construct chcaply and durably as small an ice-house as any one ought to build. The size of the chamber is 10 by 10. The walls are one foot thick, the studs being 2-inch plank, 10 inches wide, spiked upon the sills (as seen in fig. 3, which is a perpendicular section.) The sills are 4 by 10 timber, and corner posts 4 by 4 inch joists. The inside boarding is 2-inch hemlock plank, the outside fair 1 in. pine, both nailed directly upon the studs; and the 10-inch space between is filled with sawdust, tan bark, or some similar substance. Upon the top of the side walls, 6 by 2 inch plates are laid and spiked to the studs. On these the rafters 2x5, or 2x6 rest, overhanging 3 or 4 feet. The boarding-in of so small a house, is sufficient "tieing," but in a larger one it would be best to put a piece across from one plate to the other in the middle. The inner boarding should meet the sheathing on the underside of the rafters, and it is an advantage to stuff the space between the sheathing and the roof with straw, shavings, or swale hay. In the ends there should be ventilators, 1 foot square, with sliding shutters on the outside as represented in fig. 1.

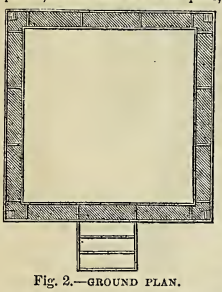


Fig. 2.—GROUND PLAN.

The sills rest upon a foundation of stone or brick, laid in mortar or cement—best cemented, at least on the inside. The floor of the house we prefer to have cemented, sloping gradually to the center, where a box is sunk, up through which the drain, a round tile, rises about 5 inches. The box is well cemented and water-tight. Three pieces of brick laid in the bottom of the box will support an inverted crock as shown in fig. 3. This ought not to come quite up to the level of the floor. The object of this contrivance is to prevent a flow of air back through the drain, and to keep the end of the drain always free. A flooring of planks having ¼ inch spaces between them, is laid upon sleepers, rails or studs, over the cement bottom, and this is covered with a thick layer of straw. Sawdust, planing-mill shavings, or straw, may be used to fill in between the ice and the walls, and to cover the ice, but the straw layer should cover the floor to keep the sawdust out of the drain.

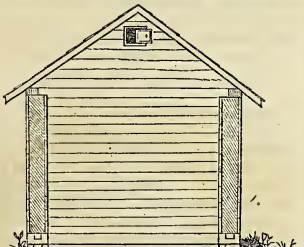


Fig. 3.—PERPENDICULAR SECTION.

Around the outside the earth should be banked up to cover the foundation. In the end most convenient for filling and taking out, which is usually on the up-hill side, a door 3 feet by 5 should be provided, the door sill being 4½ or 5 feet from the ground with outside steps.

The cost of a house like this, near New York, at present prices of lumber and labor, would be nearly or quite $150, but when a farmer can give his own labor and that of his boys and regular hands at odd times, to getting out the stuff, preparing the foundation, etc., the cost of the materials would be almost the only outlay. Were we to build, we certainly would advise making the house 12 by 12 inside, and consequently 14 by 14 outside. A large mass of ice keeps with much less proportionate loss than a small one, and the addition of two feet to the dimensions of a solid block ten feet square by eight feet high, adds 640 cubic feet to the mass, which being on the outside must melt before the original block is touched at all. With an ice-house like this, if it be filled with tolerably firm ice, well packed, there is no trouble about melting. Access of air against the bottom or sides of the mass will cause it rapidly to waste, and contact of water with the ice by stoppage of the drain, will occasion most rapid disappearance. In time of freshets, large ice-houses set near the river banks, are often touched by the rising waters, and a few hours is sufficient to destroy thousands of tons. Very large ice-houses, for supplying villages or cities with ice, are built with much less care than is necessary with small ones. Double walls filled with tan or sawdust, a strong floor, surface drainage under the floor, and banking up around the outside of the building to prevent a circulation of air underneath, and a simple roof, are about all that is necessary. The size of such ice-houses is about 30 by 60 feet, and in case more room is wanted, another similar building is added on either or both sides, provision being made for safely carrying off the water from the roofs. The ice crop of the United States the last winter was the most valuable ever taken, and fortunes have been made by those so situated that they could readily house good ice, and ship it to the markets on the seaboard.

THE LUMBER AND LABOR for a house 10 by 10 inside, with 1 ft. walls costs about as follows in this vicinity.

16 Plank, for studs, 2x10, 8 ft. long	$7.30
4 Sills, 4x10, 10 ft. long	3.00
5 Joists (for floor), 3x8, 10 ft. long	1.50
4 Joists (for corners), 4x4, 10 ft. long	1.00
14 Rafters, 2x6, 10 ft. long	4.20
350 ft. Hemlock plank, 2 in. thick	19.50
120 ft. floor plank, 2 in. thick	7.20
500 ft. pine matched boards	25.00
350 ft. roof boards	10.50
Nails and spikes	5.00
Shingles or other roofing, doors, etc	35.00
Labor	25.00
Total cost of the upright structure	$144.20

This does not include the preparation of a foundation, draining, etc., which vary with the location and soil.

How to Use Leather Scraps.

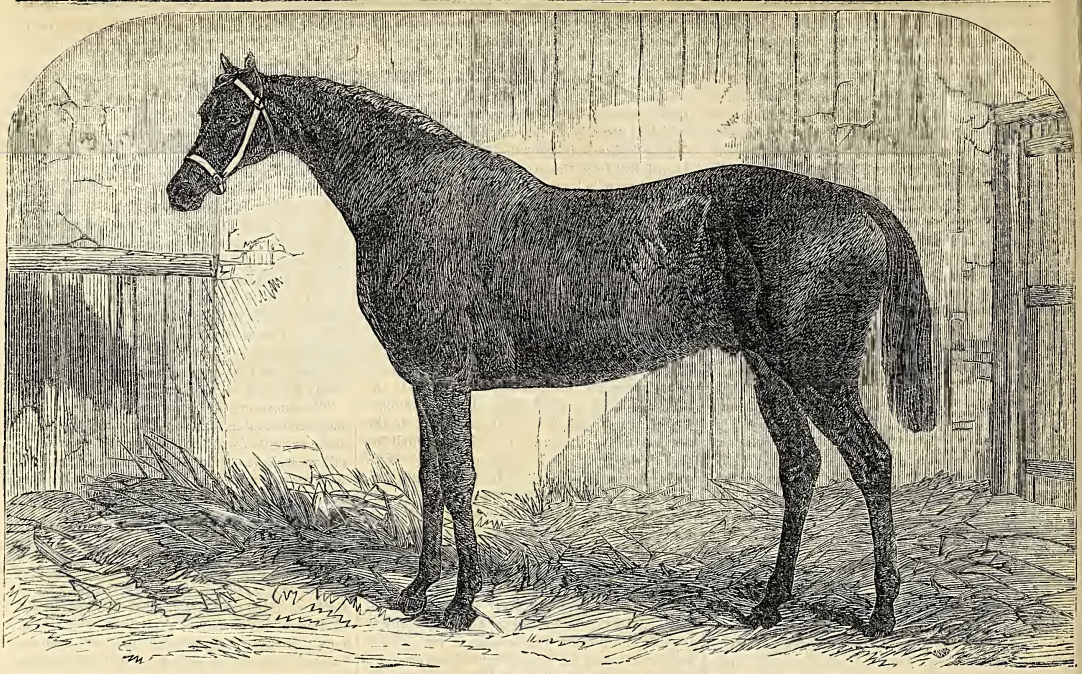
They make an excellent road. For footpaths and sidewalks about the village, nothing can be superior, for after they are well trodden down and have been rained on a few times they make a soft, dry, elastic walk, free from dust and mud. Then, too, they make excellent fuel, provided there is a strong draft in the chimney, and the neighbors do not mind the stench of burning animal matter. These are common ways of disposing of this article, and all must admit its value. As fuel its worth is estimated by some shoemakers and leatherworkers as nearly or quite equal to anthracite coal, ton for ton. Now, at the lowest estimate, leather is worth for manure more than $30 per ton—$50 would probably be nearer the truth—the only trouble being that it decomposes very slowly. Dry skins before they are tanned contain about 18 per cent of nitrogen, which, if it could be made available to the plants in the form of ammonia (which is not difficult), would make the value of raw hide scraps about $60 per ton, estimating ammonia at only 16¾ cts. per pound. In the process of tanning many changes take place in the hide. Some lime becomes incorporated with it, and a large amount of tannin is absorbed. These changes are so various in different kinds of leather, that it is impossible without chemical analysis to state the amount of nitrogen in any particular kind, and we have no analyses that give the average, but may safely estimate it at from 11 to 14 per cent.

The question now comes with force, how to make it available, and on this point we make some extracts from the Genesee Farmer. The editor writes: "The largest crop of potatoes we ever saw raised was upon land which had received a liberal dressing of old well rotted manure belonging to a saddler who kept a horse and cow, and who was in the habit of throwing all his old scraps of leather on the manure heap", and proceeds to quote from a correspondent of a Philadelphia paper, who says, that he offered the boys in his town twenty-five cents a cwt. for all the old shoes they could collect. "He procured in this way several hundred pounds, roasted them in an oven heated to double the heat required to bake bread, and they became sufficiently brittle to be readily ground in a bone mill. The leather dust was put on potatoes in the row, along side of bone-dust, and the difference was in favor of the leather manure, it being much finer, and consequently having more immediate effect; the usefulness of bones, however, was also distinctly seen from a distance. On each side a liberal supply of barn-yard manure was used; but the difference was very plainly shown in favor of the former two fertilizers. The ground was put in with wheat after the potato crop was taken up, and now no difference can be seen between the leather and bone manure; but a very marked difference, at a distance, where those fertilizers and the barn-yard manure were applied—the former leaving a dark green streak through the field with tall and well-stocked grain. It is quite a contrast. Although the wheat on the whole field is good, yet the part where the leather and bone fertilizers were applied, is so much superior as to instituto inquiries by strangers passing along."

Make the Barns Comfortable.

When lumber and labor are so scarce and so high, few will think of building new barns, but they should try to make the old ones comfortable. And this especially on the approach of winter. If the siding is poor, board it up on the inside of the studs, and fill up the space between with swale hay, straw, or shavings. If the underpinning is loose, chink it up before frost. If the floors of the stalls are rotten or worn thin, repair them or pull them up and lay dirt floors before the stock break through and break their legs. Any handy farmer can profitably attend to such jobs on rainy days, with small expense except for boards and nails.

A smile is to beauty, what dew is to the rose.



"RURAL DEAN"—AN ENGLISH HUNTER.—*Engraved for the American Agriculturist.*

Hints on Horses and Horse-Shows.

We are at this season in the midst of horse shows and trotting matches held under the auspices of agricultural and other societies and associations. It is considered nowadays indispensable to the fair judgment of the qualities of a horse, and especially of horses competing for a prize as breeding animals, that they should run a race or trot a mile or three miles together. The result too often is that the fastest horse, and not the best horse, gets the prize. The ability to trot fast is to a moderate extent natural, but so much depends upon training that it is oftener the trainer than the horse to whom the prize rightfully belongs. The fast natural gait of all horses is the run, and though the extreme flexibility of the entire system, and that ability to apply *all* the strength to running is acquired only by practice, yet it takes nothing like the skill to train horses for the race, that it does for the trotting match. So that after all, the powers of the horse are better tested by running than by trotting. Natural pacers we have, but natural trotters are hard to find, probably do not exist. Horses trot only when they do not want to go very fast, and even pacers when urged to higher speed, will break into a gallop or run. We therefore object to making trotting a prime test in judging of a horse's parts and qualities as a sire or dam. Why do agricultural societies continue to give premiums to geldings, except as they exhibit the good qualities of their progenitors? Old breeding horses ought, we think, always if practicable, to be exhibited with several of their descendants, whose performances may well be counted to their credit. The selection of horses as sires, simply, or mainly on account of their trotting powers, tends to deteriorate the stock. Thorough-bred or "hot blooded" horses will trot, and may be trained to excel in trotting, but there is nothing which so thoroughly puts the quality of horse-flesh to the test, as English fox hunting, if the riders be expert and careful. We give above the portrait of one of the best horses in England, not a thorough-bred, but very well bred—"Rural Dean," out of Valentine, a valuable hunting mare, by the thorough-bred King of Oude, "one of Mr. Rarey's Alhambra savages." This is a dark brown horse, standing 16 hands and half-an-inch high; he received the 1st prize in the class of Hunters at the Islington Horse Show, last June, and, as a newspaper reporter says: "last April, with the well-known hard-rider Jack Webster on his back, he gave a still more practical proof of his quality by beating a field of eleven at the Brigstoke Steeple-chase, almost in a walk. His rider accompanied him to Islington, and distinguished himself highly not only by the style he brought him out around the ring, but by putting him over the hurdles," to exhibit his ability to leap fences and ditches.

In the language of horsemen, common horses are called "cold blooded," and the thorough-breds "hot blooded," doubtless because the latter are derived from the "blood of the Desert," that is, from the Arabian, Turkish, and Barbary horses, which there is good reason to suppose are the primogenitors of the entire race. The structure of the eye of the horse, and its peculiar adaptability to life on the desert, is one thing that leads to this belief. While size in connection with other good qualities is so very important in determining the value of a horse, it is surprising that breeding mares and stallions both of inferior size are so often chosen simply for the sake of securing, as is supposed, trotting qualities. The encouragement of thorough-breds is imperatively demanded, for by the use of these with large framed, well developed mares, we may expect to produce after a few generations, upon our soil, horses like the above, large, powerful, fleet, and of great endurance. The great value placed by breeders of trotting stock, upon the blood of Hambletonian, Abdalla, Messenger, Mambrino, or other horses of their character, even when it is exceedingly diluted, indicates the direction of improvement.

Country Houses—Useful Hints.

A great deal has been written about country-life and the influence of rural scenes; do we think enough about the *influence* of our country dwellings? Much has been said and done of late years, to improve our domestic architecture; but have all the changes been improvements? All honor to the labors of Downing, Vaux, and others, yet we think an evil has mixed itself with the good which they aimed at. The desire to have a new-fashioned house often leads away from simplicity and true home comfort. A stylish house involves stylish furniture, stylish dress and equipage, and stylish ways of living throughout. Does not all this increase one's household cares, involve large expenditures for mere display, and so mar if not destroy domestic comfort and simplicity?

A dwelling house should be built chiefly for utility and convenience. If its outside look suggests comfort, it will surely please the spectator, even though it have no verge-boards, finials, diamond windows, balconies, and other such trimmings. The greatest beauty of a country house is its *expression of repose.* There is a certain moral attractiveness in it; it is like the beauty of a placid, benevolent countenance. But an ornate house suggests the idea of *effort;* effort to attract attention, effort to keep the es-

tablishment in order and repair, effort to conform one's manners, dress and style of living to the showy residence. A plain house comports well with plain, quiet, unaffected, gentle (not "genteel") habits of life and manners.—("Genteel" is the *sham* of true gentility.) Too many build houses less for personal comfort than for mere ostentation. Being governed by fashion, they wish to show wealth, or superior artistic taste, not their own, or something else no more creditable.—In saying these things, we do not mean to object to the embellishment of home, far from it, but simply to indicate that this should be a secondary matter and for ourselves and not for mere show. First of all then, let the aim be comfort, convenience, and simplicity.

In all improvements around a country house, the tendency to give things a look of newness and rawness which conflicts with the idea of repose, should be studiously avoided. If one has an old tree or two in his grounds, he has something which looks stable; let him make the most of it. Or if one is going to build a house, let him, if possible, choose his site not far from where a few old trees are standing. This will anchor him in the past, and steady him in the present. And in building or improving, let us not make everything look new-fashioned. This is pretentious, uneasy. Well does one say: "Our new efforts express intentions and aims; with age comes the expression of character." In painting houses or fences, we would rarely if ever, use white or any pure colors; these are too dazzling, staring and obtrusive. Sheds, barns and all out-buildings should be painted a somberer tint than the dwelling itself.

The flower garden—where should that be put? Not in front of the house, for this suggests that the labor required in planting and tending it is all for show, and not for the love of the flowers. The front of the dwelling should be given up chiefly to grass and trees grouped and not crowded, and by no means in stiff lines, nor in regular orchard fashion. Such an arrangement is expressive of comfort and quiet. The flower and vegetable garden should hold some sunny place, at the side or rear of the house, near the house, yet not ostentatiously displayed.

Autumn Plowing for Spring Crops.

The airing of freshly turned soil in summer, results, as we know, in fitting it for a succeeding crop better than almost any other preparation, and the reason why summer fallows are not more advocated in the *Agriculturist*, is, that a root crop or green manure crop may occupy the soil and the results of the fallowing be even augmented. It is not so in winter. Sward land plowed in the autumn remains exposed to the action of the weather—to freezing and thawing, wetting and drying, for several months. The sod during a considerable portion of this time is subject to decay, and in the spring after cross-plowing and harrowing, almost disappears. The opportunity should not be neglected to put the plow down an inch or two, and this new soil which might be of damage to the crop if brought to the top in the spring, is thoroughly civilized before the crop takes possession. Weed seeds that germinate in the autumn, as many will, get their quietus. Manure if applied and plowed under in the fall though it may be be buried deep, becomes considerably incorporated with the soil, and the spring plowing brings it up again, well mixed with the decayed sods, forming an admirable seed bed. Heavy soils are most benefited by autumn plowing.

A New Blackberry—The Kittatinny.

It is only within a few years that the blackberry has been included in the list of cultivated fruits. The New Rochelle and Dorchester are such marked improvements over the ordinary wild fruits that we have been apt to consider that perfection has been reached with the blackberry. There are several varieties not yet before the public, which are in some respects superior to the established sorts, and it is hoped that cultivators will go on improving this delicious fruit until all the good qualities are found combined in one berry. One of the new varieties, which we have known for two years, is called the Kittatinny, from its having originated in the mountains of that name. Though it has been in private hands for many years, it has only recently been brought to the notice of horticulturists. Early in August, in company with several amateurs, we visited a garden in Sussex Co., N. J., where this variety is in cultivation. In the habit and vigor of the plant it resembles the New Rochelle, and although the bushes had not been trained in the manner to produce the greatest fruitfulness, they were loaded with berries in all stages of development. The foliage is rather more coarsely serrate than in the New Rochelle. An illustration is given of a cluster of fruit of the natural size. The berries are longer and more irregular than those of the New Rochelle; we measured several which were an inch and-a-half long, and three inches in circumference. The pips large, with small seeds, juicy, sweet, and with a true blackberry flavor. The fruit possesses the great advantage that it does not need to be over-ripe in order to be eatable, but while still hard enough

to send to market, it is sweet and fit for the table. The crop ripens up gradually, and though the first fruit had been picked two weeks before our visit (Aug. 3), there was a great abundance of green fruit coming forward. The canes are perfectly hardy in the mountains of Sussex Co., but doubtless it would, like other varieties, be benefited by protection in winter. Should the Kittatinny do as well elsewhere, it will be a valuable addition to our limited list of varieties. To save answering queries, it may be well to state that the stock of this plant is in the hands of Mr. E. Williams, of Montclair, N. J., who has placed it in the hands of several of our most eminent fruit growers, with a view of further testing it before offering it for sale to the public, and that none will be sold the present year.

Wine-Making Suggestions.

Within a few years the culture of the grape has astonishingly increased, and there are numerous vineyards all over the country. We should be glad not to see a gallon of wine made until the fruit itself became so plenty in our markets that poor people could afford to eat and enjoy it; but such numerous requests for an article on wine-making come to the office of the *Am. Agriculturist* that they can not be disregarded.

In making wine there are so many little details to be observed and so many things requisite to the best success, that it is not possible to give more than the most general directions. Wine-making is a trade which has to be learned either by one's own experience or from that of others. The quality of wine is affected not only by the process of manufacture but by the variety of grapes; and again the same kind of grape will produce a different product on different soils. Upon large estates in Europe, celebrated for their wines, vines in different parts of the same vineyard produce wines of very different qualities. Then there is a great difference of opinion as to what constitutes wine. Some apply the term to grape juice fermented with the addition of sugar and afterward fortified with a portion of brandy or other distilled spirits. We consider none of these compounds as *wines*. The only thing which should be called wine is produced by the fermentation of pure grape juice without any addition whatever. Many of our native grapes will not make a wine that will keep, yet these differ according to the locality. Thus: the Concord is a valuable wine grape in Missouri, while many at the East say that wine can not be made from it. Sugar is generally added to the juice of the Isabella, yet we recently tasted, at the house of a friend who would not deceive us, a very good, very light wine made from the pure juice of the Isabella.

Whatever the variety of the grape, it should always be left upon the vine until thoroughly ripe. A few light frosts will do no hurt, and unless the grapes commence to decay they are better left on until there is danger from frost. The fruit is to be picked carefully, all imperfect berries removed in picking from the stems, and bruised without crushing the seeds. The bruising may be done in a barrel with a pounder, or they may be run through a mill for the purpose. Some months ago we published a correspondent's method of squeezing currants, by putting them in a bag and running them through a clothes wringer. Possibly this treatment might answer for experiments with grapes in the small way. The hint is worth remembering.

After grapes have been crushed, the further treatment varies. The juice which *runs* from the bruised grapes may be taken for the best kind of wine, and what can be *pressed* from them for a second quality, or the whole may be mixed together. The grapes must be pressed; this is usually done with a screw press, the bruised fruit being put in a coarse bag. If a light colored wine is desired, the grapes are pressed soon after they are bruised, but for a dark wine, the bruised grapes are put into a covered tub in a cool cellar and allowed to ferment. When the mass of pulp and skins rises to the top, and this crust begins to crack from the escape of bubbles of gas, then the pressing takes place. The time allowed for this fermentation on the skins will determine in a great measure the quality of the wine. The longer it is allowed to continue, the higher colored and the rougher, or more astringent the product will be.

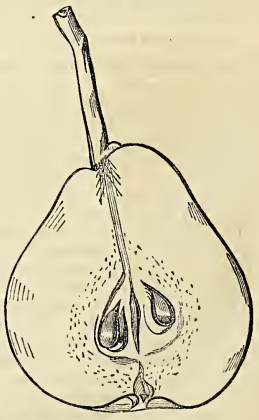
In whichever of the above methods the juice, or *must*, is obtained, it has to be fermented. For this purpose it is put into a *perfectly clean* cask. A bung is then fitted to the cask which has a bent tube inserted in it. This tube is bent like an inverted letter U, one leg of which is inserted into the bung and the other dips into water placed in a cup or other vessel, as in the figure. By means of this arrangement, all the gas liberated during the fermentation passes out through the water, while the air is prevented from coming in contact with the liquid in the cask. The fermentation commences in a day or two and continues for several weeks. The

lower the temperature the slower it will go on, and the better the quality of the wine will be. When bubbles cease to pass through the water in which the tube is immersed, remove the bung containing the tube, fill up the cask with juice which has been reserved for the purpose, and place a sound bung in lightly. A month later the bung may be driven tight. Some time during the winter the wine is carefully drawn off from the lees into another perfectly sweet cask. In the spring, about the time of the blossoming of the grape, another fermentation takes place, at which time the bungs should be loosened. After this is over, the wine will usually become clear without any aid, and in a few months may be bottled, though the operation is usually deferred until winter. This is a mere outline of the process, which is variously modified according to the kind of wine desired and the peculiar views of the maker. It is essential to use the ripest grapes, observe the greatest cleanliness in all the vessels used, and to keep the casks full in order that the air shall come in contact with the new wine as little as possible. All the wines made from our native grapes, without addition of sugar or alcohol, are very light and will not bear exposure to the air.

WINTER PROTECTION.—Many things which can not be grown at the North, if left to themselves, may be, with a slight covering. Any non-conducting material that will not pack from the weight of the snow will answer. Boughs of cedar and other evergreens, and salt hay, and hay from the marshes, consisting in good part of sedges and ferns, and forest leaves, are all preferable to straw, for covering beds of strawberries, etc. Tender shrubs are bound up in straw, or have a barrel or box turned over them. Grape vines, roses, etc., are bent down and covered with a few inches of earth.

Plants Grown from Leaves.

The operation of starting a plant from a slip or cutting is familiar to all, but generally only those who have witnessed the operations of the skillful green-house propagator are aware that there are many plants which *grow readily from a leaf or even a portion of a leaf.* A number of green-house plants are propagated in this way, and the true lilies, i.e., those which have a scaly bulb like the white and Japanese lilies, are largely multiplied from the bulb scales, which are in reality only the lower portions of leaves. A few weeks ago a correspondent sent us by mail a leaf of *Bryophyllum calycinum* (one of the Live-for-Evers) which was carried in the pocket book for a week and then put out in the border and lightly covered with earth. In a few days, buds appeared upon the edge of the leaf, roots were thrown out, and now there are three promising plants which grew from a single leaf. The engraving above shows the leaf with the young plants springing out from its margin.



The Peters Pear—(*Clift.*)

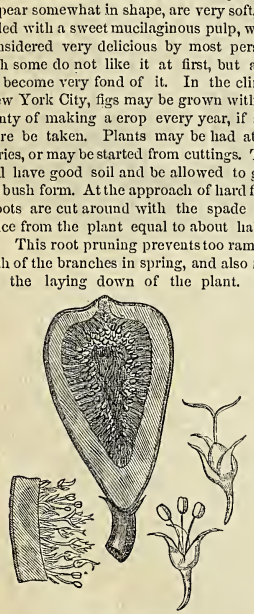
The class of really good, early pears is very small, and any addition to the number will be welcomed by cultivators. Rev. W. Clift, sends us specimens, and gives the following account of the above named pear: "It is one of our earliest summer pears, and is pronounced by competent judges *very good*, if not *best*. It is a seedling of

the Virgalieu, and was planted about the year 1848, by Rev. Absalom Peters, D. D., of Williamstown, Mass. It was several times transplanted, and finally put in the position it now occupies, about 1853. The tree stands in the garden formerly occupied by Dr. Peters. It is perfectly hardy, a vigorous grower, an abundant bearer, and gives crops every year. It has borne for three or four years, and has the present season over a bushel of fruit. The pear ripens in Williamstown, the 1st week in August, which would make it about as early as the Madeline. It is a much better pear, about the size of the Tyson, highly colored, and promises to be one of the best early summer pears."

The engraving gives the size and shape, and we add the following description: Fruit small, irregularly obovate. Skin, lemon-yellow, with a fine blush on the sunny side. Stem, stout, more than half the length of the fruit, inserted obliquely, with a large lip. Calyx, nearly closed, in a very shallow and nearly regular basin. Flesh, juicy, buttery, gritty near the core, sweet, with a rich, sprightly flavor. Early in August. We understand that steps have been taken to propagate and bring it into the market.

How Figs Grow and Flower.

But few persons who are familiar with dried figs, as they are imported in drums, would recognize them in their fresh state. They resemble a pear somewhat in shape, are very soft, and are filled with a sweet mucilaginous pulp, which is considered very delicious by most persons, though some do not like it at first, but afterward become very fond of it. In the climate of New York City, figs may be grown with fair certainty of making a crop every year, if a little care be taken. Plants may be had at the nurseries, or may be started from cuttings. They should have good soil and be allowed to grow in the bush form. At the approach of hard frosts the roots are cut around with the spade at a distance from the plant equal to about half its hight. This root pruning prevents too rampant growth of the branches in spring, and also facilitates the laying down of the plant. The



A FIG IN BLOSSOM.

plant is bent over, and secured by pegs and covered with a layer of earth sufficient to protect both root and stems from injury by frost. In the Middle States, covering with a barrel or with straw, is found to be sufficient. Cutting out decaying or crowded branches, and shortening the overgrown ones, is all the pruning required. It is a common impression, even among cultivators, that figs produce fruit without ever blossoming. They do blossom, but in a very curious manner. The accompanying cut, made from a specimen brought to show that they do not flower, will serve to illustrate the way in which they *do* flower. The engraving shows a young fig, cut through lengthwise at blossoming time. It is a hollow sack, or bag, with little projections all over the inside of it. This matter which lines the bag, is seen by means of a magnifier to be made up of a multitude of minute very simple flowers. A small slice, at the left-hand side of the figure, is magnified so as to show some of these flowers, and on the other side two separate flowers are shown much larger. Both staminate and pistillate flowers are found in the same fig, each raised on a little stalk. This bag is botanically called a *receptacle*. We are familiar with a large flat receptacle in the sunflower, where the small flowers are crowded on its upper surface. If we imagine the sunflower receptacle to be drawn up to form a bag, with the little flowers all inside, we shall get an idea of the structure of the fig. When the fig ripens, the remains of the flowers and their stalks, and the receptacle itself, all become sweet and pulpy, while the pistils of the pistillate flowers ripen and become *fruits*, though commonly called seeds. The fig then, instead of being a simple fruit, is really a collection of a great number of fruits which are produced by many different flowers, and it is the substance which surrounds them which popularly passes for the fruit.

THE HOUSEHOLD.

Cheese-Making in the Small Way.

"A Farmer's Wife," from Gorham, Maine, gives an account of her very successful practice in cheese-making with a few cows, in the hope of benefiting some of the readers of the *American Agriculturist:* "A large amount of good cheese might be produced from dairies of from four to six cows, if the farmers' wives only felt competent to undertake cheese-making, and were furnished with a few simple but necessary articles. The things most needed are a *cheese tub*, to "set" the milk in, a good *basket* to drain the curd in; a *lever press*, and *hoops* of two or more sizes, to accommodate the smaller supply of milk as the season advances. I was brought up on a farm, in what was then a cheese-making district, and have been for the last ten years engaged in cheese-making through the hot weather, on a farm of which I am the mistress, and as my method differs somewhat from any that I have seen recommended for either large or small dairies, and as it produces almost uniformly a good cheese which finds a ready sale, notwithstanding its small size, (perhaps partly in consequence of it,) I write my process out for the information of those who have lived—as a person told me the other day—"twenty-two years on a farm and never saw a cheese made." I take parts of several well cured rennets, and soak them in warm water a few hours, rubbing occasionally and adding as much salt as will dissolve readily; then drain the liquor and soak again a few hours; strain off the second liquor, and put it with the first, into a glass jar or bottle, adding so much rock salt that there shall always be some undissolved; cork it tight, and keep in a cool place.

When the night's milk is brought in, I strain it immediately into the cheese tub and put in rennet sufficient to bring the curd, or show that it is coming in ten minutes, and in twenty minutes the curd should be firm enough to admit of being crossed off coarsely with a wooden cheese-knife. In ten or fifteen minutes more it is cut finely and left to settle until bed time, when if it is settled sufficiently, it is dipped into the basket and left to drain through the night. If from any cause, such as late milking, or the rennet not proving strong enough to bring the curd readily, it does not separate from the whey at bed time, it is left in the tub until morning. It is much better to put it draining before going to bed, for if it remains all night in the tub it is liable to sour, particularly in warm weather, to the very great detriment of the cheese.

In the morning the tub is prepared by simply rinsing in cold water, unless the weather is cold, when hot water is used, in order to warm the tub so that it may not cool the milk. The morning's milk is strained into it, and the same process as with the night's milk, is gone through with, until it is ready to drain, when it is dipped into the same basket with the curd formed from the night's milk, and thenceforward both are treated together.

The whey that runs off in the morning is saved to scald the curd with, and is carefully heated over a slow fire so as not to scorch it. When the curd has become sufficiently firm to admit of being cut in slices, which condition may be hastened by frequently cutting it with a case knife, and by a light weight laid upon it, it is put back into the tub, cut in thin slices and "scalded," not so as to melt the curd and make it run together, but merely to harden it. My rule for the temperature of the scalding whey is, that it should feel hot to the hand, but not hot enough to burn the hand, as the whey is poured over it, while moving the curd in the tub, so that it may all become equally scalded. Enough hot whey is thus poured over the curd to cover it, and fifteen or twenty minutes is sufficient time to be allowed for scalding. Then it is dipped again into the basket to drain and cool. Half an hour, with an occasional cutting and turning, is sufficient for cooling, when it is again put in the tub to be chopped fine and salted. A cup of salt, for a cheese weighing from 10 to 12 lbs. when dry enough to market, is the quantity that I use. It is then put in press and subjected to a moderate pressure until toward night, then it is turned, and an increase of pressure added until the next morning, when it is ready to remove to the curing room. In two or three weeks, if the weather is favorable, with proper care, rubbing and turning over every day, these cheeses will be ready for market.

The advantages of this method over others described, are, that it prevents the cream from separating from the milk, with which it can never again be so thoroughly incorporated. It saves the labor of cooling and again warming the milk, and it makes a good cheese. Try it and see."

How to Make Catsup.

Large quantities of tomatoes, cucumbers, peaches, plums, etc., received at New-York market, sometimes remain unsold until too much decayed to be disposed of as vegetables or fruit, but they are not thrown away as worthless. Parties are ready to buy them at a cheap rate for making catsup, and immense quantities of such produce are used in manufacturing much of this article on sale in the stores. Better fruit will give a better article; but knowledge of the above fact may enable some to turn to account much that would otherwise be lost.—In making catsup the main requisite is to incorporate the pulp well with spices or vinegar.

Tomato Catsup, which is most used, may be well made as follows: Select perfectly ripe sound fruit, cut in slices, and boil until the pulp is cooked soft. Rub it through a sieve to take out the skins and seeds, and replace it in the kettle for cooking. To each gallon of pulp add three tablespoonfuls each of salt, ground pepper, and mustard, and one of ground allspice. Enclose four large sweet peppers, and two or three garlics, or one large onion in a small bag, and boil in the catsup. The garlic or onion may be omitted if the flavor is not relished. Cook it until of the right consistence. It should be just thick enough to run slowly from a bottle. When cool, pour it into bottles, cover them with a bit of cotton cloth tied on the neck, and leave it three months to ripen; then cork and seal.

Grape Catsup.—Place grapes in a kettle surrounded with boiling water. To each quart allow a teaspoonful of broken cinnamon, one of mace, and a half teaspoonful of cloves. Let it simmer over water one hour. Strain the juice and pulp, add to each quart a pound of sugar, and then boil again until reduced to nearly a jelly. Thin to proper consistence with vinegar, bottle, cork and seal.

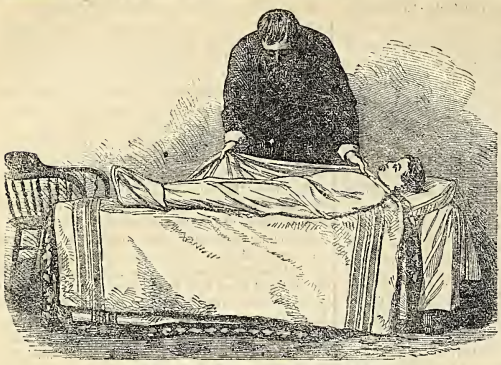


Fig. 1.—PUTTING INTO THE WET SHEET.

The Treatment of Scarlet Fever.

Those who read the *Agriculturist* need not be told of the caution which it exercises in regard to all medical matters, that while it frequently gives recommendations in regard to preserving health, it seldom publishes recipes for curing disease, and that it does not allow patent medicine advertisers to use its columns. It may be said by some that in publishing the present article it departs from its usual custom and has undertaken to teach its readers how to treat that most terrible disease—the scarlet fever—with a wet sheet. As will appear presently, the article is written with an entirely different object. Others may say that, as the article is on the use of water, we are converted to hydropathy. No, not to that nor to any other *pathy*. The distinction between the true physician and the quack is just here: the physician uses any curative agent that he thinks will help his patient, while the quack starts with some particular remedy or remedies, which he applies to all diseases, in all constitutions. No class of men have a monopoly of the use of any remedial agent, and water has always been recognized by physicians as one of these. Our object in publishing this article is this: Dr. R. W. Mathewson, of Durham, read before the regular meeting of the State Medical Society, of Connecticut, held at New Haven, May 25—6, a paper upon the treatment of Scarlet Fever. A portion of his practice was in the family of one of our friends and his success was very remarkable. The article was published in the transactions of the Society, with illustrations showing the manner of treatment. As the subject seems to be one of great importance to the medical profession, the most dreaded diseases, set forth by a regular physician, who publishes it in a periodical of acknowledged standing, and we merely wish to submit it to a wider circle of medical men than would otherwise meet with it. *It is distinctly to be understood* that this is not recommended by the *Agriculturist* as a domestic remedy, to be applied without advice. Scarlet Fever is too dangerous a malady to be tampered with, and under the best treatment, is too often fatal. What we wish the reader to do is to submit the article to his family physician, and to implicitly follow his advice, and if it is decided to use the water treatment at all, it should only be done under his immediate supervision. The first part of Doctor M.'s article is occupied by quotations, from high medical authorities, upon the use of cold affusions in Scarlet Fever, and he had been accustomed to the use of cold lotions, compresses, etc., himself. A child in a family he attended was taken with Scarlet Fever. In his absence the child's father, who had previously used the wet sheet in fevers, put the child into a wet sheet pack, which reduced the pulse from 180 to 130. The following is almost exactly in the words of Dr. Mathewson:

"I denounced the practice, and warned the father of the sequences which would be likely to follow such treatment; in this I was, however, disappointed, and have since witnessed its effects in twelve cases, with the most satisfactory results. It acts as a universal fomentation, warmed by the heat of the patient. By its repelling effects on the surface, and consequent reaction, it relieves the congested capillaries, which constitutes the eruption, it opens the constricted and constipated pores of the skin, and, by keeping the cuticle in a moist state, favors absorption and exhalation, aiding the eliminating efforts of the disease to discharge the morbid matter, through nature's chosen surface for its expulsion from the system, thereby removing the cause of morbid excitement and local complications.—The earlier the pack is used in a case, so as rather to anticipate the eliminative effects of the disease, the more marked the effect; it may be used as soon as the heat and dryness of the skin and frequency and fullness of the pulse is above the natural, and with a freedom in proportion to the urgency of these symptoms.—I have usually applied the wet sheet during the evening exacerbation, while the excitement was near its hight; its effects have been to reduce the frequency of the pulse 20 to 40 beats a minute, to calm excitement and produce quiet sleep in from 10 to 15 minutes; some children, frightened by the first application, have kept awake half an hour. By the use of the wet sheet, we seem to have the frequency of the pulse, the arterial and nervous excitement, under control as with a damper. The luxury of the pack is a great consideration. I have known children cry for its repetition on a return of the fever. The effect of the pack on the nerves and vessels of the skin, while it changes it from the harshness of parchment to the softness of velvet, produces a sense of comfort hardly describable; in fact the patient in this changed condition hardly knows himself.

In neither of the cases treated by me with the wet sheet, was there the slightest *sequelæ* following, although in an epidemic where complications were frequent. In some cases the inflammation of the throat and glands disappeared immediately after using the pack without local treatment."

The case of one woman, who was packed by her friends, terminated fatally, and the Doctor remarks, "It is important to be sure of reactive power in the system before using the wet sheet."

DIRECTIONS FOR PACKING.

"Place upon a cot or mattress, one or two comfortables and blankets, enough to make four in all,—the number of each can be varied according to the supply—then a linen or cotton sheet wrung out so as not to drip, in water at 70° Fahrenheit. The thinner and dryer the sheet, the less the effects; the higher the temperature of the surface, and the quicker and fuller the pulse, the thicker and wetter the sheet may be. The sheet should extend below the feet about half a yard, and if too long it must be doubled down at the other end.

The patient totally undressed, is laid upon the sheet in all his length, with his arms close by his sides, and quickly enveloped in the sheet; first the side towards the packer is carried over and tucked under the opposite side evenly and closely about the neck; next it is brought over the feet, and then the other half is brought over and tucked under in the same way; then each part of the first blanket is carried over in the same manner; then a bottle

Fig. 3.—USE OF THE DRIPPING SHEET.

of warm water is placed at the feet to insure reaction; then the other coverings are each applied in the same way, taking care so to apply them to the neck, that no heat can escape or air enter any part of the pack; now a cloth, dripping with cold water, is applied to the forehead, extending back to the pillow; in this state the patient is to remain until he becomes restless from perspiration, which will be in about an hour. There is a slight restlessness when the perspiration is starting through the skin; he should not be removed at this time. * * * When taken from the pack, the patient is to be quickly wet with water at a temperature of 70°, by immersion, or by quickly throwing the water over the patient while standing in a tub, or what is better, a dripping sheet wet in the water and thrown over the patient while standing in the tub. (See cut.) The patient is to be rubbed briskly through the sheet, then with the bare hand and lastly through a dry sheet thrown over him in the same way. He is then to be placed in bed, with a bottle of warm water at his feet, to assist reaction.

The pack is to be repeated whenever the fever returns, usually the next evening, and as long as the fever continues, with the above precautions.

This method of using the wet sheet, is the same as is used in other febrile diseases, pulmonary inflammations, and cases requiring increased action of the surface. The dripping sheet with the subsequent treatment, as above described, without the pack, has the effect of a plunge or sponge bath, in cases where a quick impression is desired to excite action and equalize excitement. The entire surface being protected by the sheet during the frictions, the unpleasant chill from the evaporation, as in the other methods, is avoided.

While using the wet sheet pack, I have given the Tincture of Chloride of Iron, as in other cases, and a gargle of Chloride of Potash.

I always insist upon the most thorough ventilation of the apartments, keeping windows open more or less according to circumstances, night and day; protecting the patient from drafts is very important for the good of patient and attendants."

Fig. 2.—IN THE SHEET: ENVELOPED IN BLANKETS.

and as the volume in which Dr. Mathewson's article was published, has necessarily a very limited circulation, it was thought that there could be no more efficient means of reaching the whole body of the medical profession than to give an abstract of the article in the *Agriculturist*, as that goes into every neighborhood in the country, and will through the people reach the eye of almost every medical man. Here is a method of treating one of

To Dye Butternut Color.

M. Gay, sends to the *American Agriculturist* the following directions: In any convenient vessel (as a large trough) place a layer of butternut bark, the rough portions being removed, then a layer of wool or yarn, another of bark and so on. Fill the vessel with water, and weight the goods to keep them under. Air the fabric every day by spreading in the sun; this will set the dye. Goods for men's wear are treated in this manner. For plaid dresses and material for children's wear, the bark and yarn in alternate layers are placed in an iron kettle, and warmed over a fire once or twice a day. The goods are to be aired in the sun every day as before. This gives a much darker shade, and is preferable for many purposes. This dye will not injure cloth as sumach berries sometimes do.

Soda and Saleratus in Food.

"H. W. W." inquires: "What effect soda or saleratus has in a compound of *sweet* milk, flour, and eggs." No good effect, we should suppose. Many of the recipes sent to us contain an inordinate amount of these articles, and they are introduced into some where they can be of little or no use. If the soda and saleratus are well made, they will give off a portion of their carbonic acid by heat alone, and the escape of this will render the compound somewhat lighter, and a disagreeable alkaline salt will be left. According to the writer's notion these articles should never be used without some acid to combine with them—cream of tartar for instance. This will set free the carbonic acid and make the cooking light, and at the same time convert the alkali into a tasteless compound. When soda or saleratus is mingled with sour milk, its lactic acid unites with the alkali, setting free the volatile carbonic acid, which produces the "lightness," the same as when cream of tartar or tartaric acid is used. He is moreover of the opinion that really good cooks use but very little of these articles, except to correct the acidity produced by over-fermentation in raising dough.

Hints on Cooking, etc.

To keep Mince Meat.—George P. Passmore, Chester Co., Pa., writes to the *American Agriculturist* that mince-meat prepared at any time of the year may be kept entirely sweet for months by packing it in stone jars, and covering the surface with say half an inch of molasses to exclude the air. This is worth remembering when at any time a larger quantity of beef is cooked than is wanted immediately. [A layer of lard over it will keep it.]

Omelet.—Contributed to the *American Agriculturist* by Louisa J. Wilson, Armstrong Co., Pa. Beat together four eggs and one cup of sweet milk. Have ready a skillet with a piece of butter the size of a walnut, on a moderate fire. When the eggs are beaten, place them in a skillet and cook ten or fifteen minutes. [A capital addition to the above is, parboiled ham cut into small bits and mixed with the omelet when placed in the skillet.]

Flake Pudding.—Contributed to the *American Agriculturist* by Ivy Adams, Cluton Co., O.: Take 3 eggs and 3 cups of milk, stir in flour until it makes a thin batter, put a small quantity in the pans to allow for raising, bake quickly.

Sponge Cake.—Contributed to the *American Agriculturist* by Mrs. B. McClellan, Sandusky Co., O.: "Mix 6 eggs, thoroughly beaten, with 2 cups sifted sugar, 2 cups sifted flour, 1 teaspoonful cream tartar, ½ teaspoouful soda, and a little salt.

Salt Rising.—Mrs. Wm. Jackman, of Williamsburg (no State given), gives her process of raising bread: "The first thing in the morning when the tea-kettle boils, I take a pint of boiling water and put a teaspoonful of salt into it, let it stand until cold enough to bear my finger in it, then stir in flour enough to make a batter (using a quart pitcher for the purpose) then set it to rise, by placing the vesel containiug the batter inside of a pot of warm water, kept just warm enough to bear the finger in. After it has stood 2 or 3 hours, stir in a tablespoouful of Indian meal, and when the vesel runs over, which will be 4 or 5 hours from the first, mix the dough and make into loaves, set them in a warm place, and cover to rise. When risen enough, bake. The above quantity is for 7 pounds of flour."

Cucumber Catsup is an excellent sauce and very readily made. Select large cucumbers just before they turn yellow, peel and grate them; let the juice drain out through a colander or sieve, then rub the pulp through a sieve to remove the seeds. Half fill bottles with the pulp and then fill up with moderately strong vinegar. Keep it corked tightly. Add salt and pepper when used at the table.

☞ For more Household Items, See Basket.

BOYS & GIRLS' COLUMNS.

A Resurrection Fish—The Mud Fish.

When the description and illustrations of the "resurrection *plants*" were made for the August *Agriculturist*, we did not expect to be able to present an engraving of an *animal* possessing similar powers. There is a fish found in Africa which adapts itself in a remarkable way to the peculiarities of the region in which it lives. It is found in the river Gambia, a stream which during some months of the year spreads over a great extent of country, but in the dry season gradually diminishes in size and occupies a very narrow bed. This peculiar fish enjoys itself in the time of high water, but when the river begins to recede, it goes into the mud and covers itself with a thick slimy coat. The heat of the sun bakes the mud as hard as a brick, and the fish is there enclosed beyond all possibility of escape, and it has only to wait patiently for eight or nine months until the annual rise of the waters softens the mud and soaks it into renewed life. Mr. Barnum of the Museum procured several of these fish which were enclosed in sun-baked mud just as they were broken out of the river bed. We had the pleasure of see-

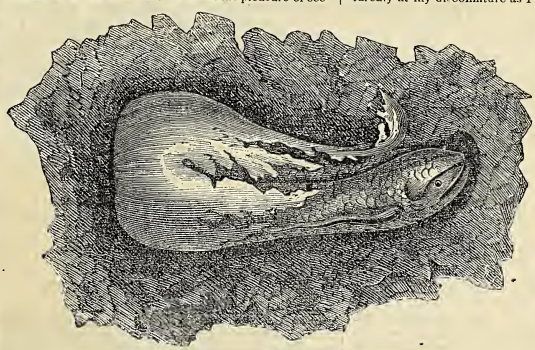


Fig. 1.—RESURRECTION FISH ENCLOSED IN DRIED MUD.

ing one of these opened. The ball of clay was carefully sawed apart, and the fish exposed as is shown in the upper engraving. It was apparently "as dead as a herring." The thick leathery coat of hardened slime was carefully removed, and the fish placed in a tank of water. After soaking a few minutes, it gradually began to stretch itself and awoke from its sleep of many months, and in less than half an hour was swimming around in a lively manner. The below engraving shows the animal after awaking. It is about a foot long, of a dark gray color, with some black markings, and looks somewhat like an eel, and something like a lizard. The four appendages which appear like legs are slender fins. Naturalists have been puzzled whether to consider the animal as a reptile or as a fish, but the best writers decide that it is fishy. It is said to have both lungs and gills, and it is probable that during its long term of sleep it carries on a slow breathing. The name given to it by naturalists is *Lepidosiren*, which means scaly siren—*siren* being the name for a kind of reptile. The animal is said to be good as food and to be much sought after by the natives of the country where it is found. Their summer fishing excursions must be rather curious affairs, as instead of hook and line, each fisherman will need a hoe and shovel, or as those implements are scarce in that region, they very probably pursue their sport with a sharp stick, or some other instrument. Both this and the plant described in August, should be thought of as something more than mere curiosities. They are remarkable illustrations of the Wisdom which endows both plants and animals with powers and instincts to enable them to live where those with a different organization would perish.

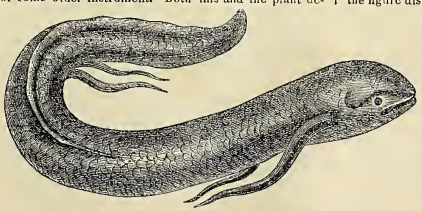


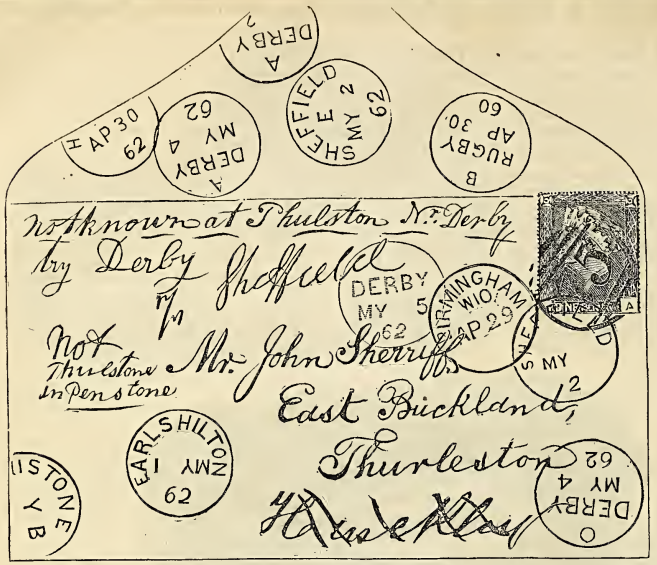
Fig. 2.—RESURRECTION FISH SWIMMING.

Too Much Display.—An Anecdote.

Most young people are very fond of display in dress. Rings, breastpins, and similar superfluities are all in great demand among them. We have known a girl to spend a month's wages for a single article of this kind, and a young man to run in debt for a cane when he had scarcely clothing enough to appear respectable. The following story of a successful merchant will show to such, how these things look to sensible people. Said he: "I was seventeen years old when I left the country store where I had 'tended' for three years, and came to Boston in search of a place. Anxious of course to appear to the best advantage, I spent an unusual amount of time and solicitude upon my toilet, and when it was completed I surveyed my reflection in the glass with no little satisfaction, glancing lastly and approvingly upon a seal ring which embellished my little finger, and my cane, a very pretty affair, which I had purchased with direct reference to this occasion. My first day's experience was not encouraging. I traveled street after street, up one side and down the other, without success. I fancied toward the last, that the clerks all knew my business the moment I opened the door, and that they whisked ill-naturedly at my discomfiture as I passed out. But nature endowed me with a good degree of persistency, and the next day I started again. Toward noon I entered a store where an elderly gentleman was talking with a lady near by the door. I waited until the visitor had left, and then stated my errand. 'No sir,' was the answer, given in a crisp and decided manner. Possibly I looked the discouragement I was beginning to feel, for he added, in a kindlier tone, 'are you good at taking a hint?' 'I don't know,' I answered, and my face flushed painfully. 'What I wish to say is this,' said he, looking me in the face and smiling at my embarrassment, 'if I were in want of a clerk, I would not engage a young man who came seeking employment with a flashy ring upon his finger, and swinging a cane.' For a moment mortified vanity struggled against common sense, but sense got the victory, and I replied, with rather a shaky voice. 'I'm very much obliged to you,' and then beat a hasty retreat. As soon as I got out of sight I slipped the ring into my pocket, and walking rapidly to the Worcester depot, I left the cane in charge of the baggage-master 'until called for.' It is there now, for aught I know. At any rate, I never called for it. That afternoon I obtained a situation with the firm of which I am now a partner. How much my unfortunate finery had injured my prospects on the previous day I shall never know, but I never think of the old gentleman and his plain dealing with me, without always feeling, as I told him at the time, 'very much obliged to him.'"

How to See a Ghost.

Draw a picture of the object you would like to have appear. Let it be made with as few lines as possible, and be filled in with plain black, or other color, without light shading. Or the picture may be entirely white, surrounded with plain black, with only a few lines to make the figure distinct. Hold the object near a strong light, and look steadily upon a point near the top of it for about a minute, and then immediately look on the wall or other plain surface in a dark part of the room, and the figure will appear greatly enlarged. The color of the "ghost" will be the opposite, or "complementary" as it is called, of that of the picture. A blue picture produces an orange colored image; red gives green; green, red, etc. A book of amusing pictures of this kind, for raising ghosts, is advertised in our columns, and it will afford much amusement in a winter evening. This experiment shows how many so-called ghosts may have been caused. When we gaze steadily at an object for a short time, an impression is made on the nerve of the eye and through it on the brain and mind, which does not immediately disappear; thus we seem to see the image wherever the eye is turned, and it appears plainest, looking into the dark.



The Travels of a Letter.

Some time since Mr. Edwin James, of New-York, sent to the office of the *American Agriculturist* a very odd looking letter envelope. Above is an engraving of it. It was placed in a Post Office in England, by Mr. James, directed to "Mr. John Sherriff, East Buckland, Thurleston." The Postmaster at that place could not find Mr. Sherriff, but thinking he might be at Derby, forwarded the letter there. The Postmaster at Derby had no better success, and tried another place, and so the letter traveled on in search of Mr. Sherriff, in every place where it was thought he might be found, and failing to reach him, it was finally sent back to its writer, Mr. James, containing the marks of *fourteen* Post Offices, through which it had passed, and all this trouble cost but *one penny*. This shows how much care is taken in England to have letters properly delivered, or returned to their writers, if the persons addressed can not be found. We hope our own Post Office system may soon be as complete as this.

A Wealthy Sentinel.

The following anecdote is related of a soldier in the English army in 1774, who was called out with his Company to resist an expected invasion. He was of German birth and very rich. It fell to his lot one cold wet night to be stationed as sentinel over a baggage wagon. In about half an hour after taking his place, he called out, "Corporal of de guard!" The corporal came and inquired what he wanted. He asked to be relieved a few moments while he spoke to the commanding officer of the regiment. His request was granted and soon he stood before the general. "I wish to know," said he, making his salute, "what that wagon is worth which I was placed to guard." "I can not say exactly," was the reply. "Never mind the exact amount, come somewhere near it." "A thousand dollars," said the general. "Well then general," said the comfort-loving soldier, "I will write a check for the money, and then I will go to bed." He was very much astonished and highly indignant, when told the rules of the camp admitted no such transaction, but he must do his duty until regularly relieved.

Curious Freak of a Hen.

Mrs. S. A. Smith, Green Lake Co., Wis., writes to the *American Agriculturist* describing the singular conduct of a hen in her neighborhood. She was determined to sit, but her eggs were taken away and she driven off several times. Finding no prospect of securing a family in the natural way, she adopted other and rather extraordinary means to accomplish her object. She came across an old cat with a litter of kittens in the barn, drove away the mother, and took the little ones under her own protection. Two of them were dark colored, and one yellow; the latter she would not own at first, but finally admitted her under her wings with the rest. How she proposed to nourish her strange brood does not appear, but when she was driven away from them, she fought as determinedly as though they had been her own chickens. Such perseverance deserved a nestful of eggs over which her maternal instincts could have been fully satisfied.

Use Plenty of Fresh Air.

The earth is surrounded with an ocean of air, forty-five miles deep. There is plenty of it for every living creature, for all time to come, and ample provision has been made by the Creator to keep it pure and fit to be breathed and sustain life. It is well for us that this is so; without it all must soon die. How does breathing keep us alive? To understand the matter it is necessary first to know something about the blood and its circulation in the body. This fluid is made up of particles taken from the food. By means of the heart, and small tubes *(arteries)* leading from it, it is carried to every part of the body, and from it are taken materials for flesh, bone, skin, hair, etc., to increase the growth, or to supply the place of those parts which have been worn out by use. The blood having been distributed to every part of the body through the arteries, passes into another set of tubes *(veins,)* which conduct it back towards the heart, going through the lungs on its way. On its way thither it receives into its current, the waste or worn out particles which are no longer fit to sustain the system. These are largely made up of a substance called *carbon*, which you often see in the form of charcoal, or nearly pure carbon. When the blood reaches the lungs, it is there divided through myraids of minute veins, each one of which passes around an exceedingly small sac or cell of very thin membrane or skin, which is filled with the air drawn in by taking breath. While passing around these cells, a surprising change takes place in the blood. One part of the air called *oxygen*, passes through the membrane, unites with the carbon, forming a new compound called *carbonic acid gas*, and this is expelled from the lungs and through the mouth and nose by expiration or breathing out. This gas is poisonous; any animal confined in it very soon dies. Thus you see breathing keeps us alive by bringing in air to purify the blood. If the waste particles were not thus separated, they would soon poison the whole system. If this process is stopped by any means, death very speedily follows, as in the case of choking or drowning, which prevent the air from entering the lungs. If the air itself is impure from having been breathed once or twice and thus partly changed into carbonic acid gas, it can not purify the blood, but will poison it, and if this be continued, disease and death will be the consequence. From this it is easy to see the necessity of having plenty of fresh air in houses; of ventilating them, to allow the impure atmosphere to escape, and the pure air to enter. An equally important lesson to be learned, is to allow the lungs to draw in all the air possible, that the blood may be thoroughly purified. This is often prevented by wearing tight clothing, but more frequently by sitting or standing with the shoulders, thrown forward and the body half bent. Such a position prevents the lungs from expanding fully, they grow smaller, the shoulders become rounded, the chest narrow, and thousands become consumptive and die from disease brought on in this way. Throw back the shoulders, hold up the head, sit and stand erect, and give the lungs full play. This gives a finer form more vigorous health, and longer life. The habit of doing this, or of neglecting it will be formed in youth, and we desire that every girl and boy who reads the *American Agriculturist* should grow up strong in body, in intellect, and pure in heart.

New Puzzles to be Answered.

No. 100. *Illustrated Rebus.*—Good advice for the times.

No. 101. *Geographical Questions* proposed by "Harry Greenwood," Belchertown, Mass. 1. How many "Union Counties," are there in the Southern States? 2. How many "Lincoln" Counties? 3. In what State is McClellan County? 4. How many "Coffee" Counties in the Southern States? 5. In which States are Sampson and Sunflower Counties?—The studying out of such questions will add to one's geographical knowledge.

No. 102. *Transposed Poetry.*—Contributed to the *American Agriculturist* by L. E. Hewins, Norfolk Co., Mass.: How will it read, if rightly arranged?

Nowebotdrahebtsum,ezirpewerusaertcht
Nuhsylsuoiditsafew,tegotysaesitalw.

No. 103. *Mathematical Problem.*—A and B, with C working half the time can do a piece of work in 21 days; B and C, with D half the time can do it in 24 days; C and D, with A half the time, in 28 days; D and A, with B half the time, in 32 days. In how many days can each do it alone; how long will it take when all work together?

No. 104. *Illustrated Rebus.*—Worth remembering by all.

Answers to Problems and Puzzles.

The following are answers to the puzzles in the September number, page 274. No. 96. *Illustrated Rebus.*—*Con st ant drop in g wares a stone*; or, Constant dropping wears a stone. No. 97. *Word Puzzle.*—The seven nouns are the names of the days of the week. No. 98. *Illustrated Rebus.*—*A still tongues peak saw eyes head*; or a still tongue speaks a wise head. No. 99. *Double Geographical Acrostic.*—First, *Augusta*; Second, *Trenton*. 1, Ararat; 2, Ulster; 3, Greece; 4, Union; 5, Scheldt; 6, Toronto; 7, Androscoggin.

The following have sent in correct answers up to September 19th. Henry H. Osgood, 93, 95; Mrs. Mary Neusom, 93; William Scott Holland, 93; E. P. Harnish, 96, 98, 99; George G. Parker, 99; Frederick E. Parker, 99.

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Rebels are moving away and are selling for whatever they can get. An extensive immigration from the Northern States and from Europe already begun, will soon occupy that part of the State and develope its immense natural wealth. Free and full information given on application to

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The AMERICAN AGRICULTURIST for February, 1864, page 37, has the following:

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Battle of Chicamauga.
Heroes Slain.
Our Naval Heroes.
The Picket.
The Traitor.
Basket of Fruits.
Flowers.
Choice Fruit.
The Dove.
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Maj. Gen. George G. Meade.
Maj. Gen. George B. McClellan.
Maj. Gen. B. F. Butler.
Maj. Gen. W. S. Hancock.
Maj. Gen. W. T. Sherman.
Maj. Gen. A. E. Burnside.
Miss Maj. Pauline Cushman.
Lincoln and Johnson.
Ten Rebel Generals.
Catching a Guerrilla.
Crucifixion and Resurrection.
Sermon on the Mount.
Christ Blessing Little Children.
Kearsage sinking the Alabama.
Seeing the Elephant in New-York.
Politicians Measuring Lincoln's Shoes.
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Hybrid, Allen's Hybrid, Creveling, Hartford Prolific, Diana, Maxatawney, Adirondac, and Iona, at low prices. We call particular attention to Rogers' Hybrid, No. 19, as the largest, earliest, and best hardy black grape yet introduced. It is a cross between the Black Hamburg and native, combining the fine flavor of the foreign with the hardiness of the native. Our vines are produced from the wood of the original vines of which we have the entire stock.

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Descriptive catalogues containing a cut of Rogers' Hybrid sent to all applicants enclosing stamp to prepay postage.

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My stock raised this season is very fine. **12** good, strong, well grown Delaware Grape Vines will be sent, post-free, by mail to any one sending a $5 U. S. note. Any of the following may make part of the bill at the annexed rates per doz.

Adirondac, $24 per dozen; 2 year old, $36 per dozen.
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Hartford Prolific	50	95	1 40	2 75	5 25
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Also a fine assortment of GREEN-HOUSE BULBS comprising CYCLEMENS; IXIAS; OXALIS; SPARAXIS; TRITOMAS; ACHIMENES; GLOXINIAS, &c., &c.

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Invite the attention of dealers and planters to their large and fine stock of Pear Trees, including all the new and choice varieties.

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My stock this season comprises all the valuable hardy varieties, and has been produced with the greatest care, to secure plants that will give uniformly the best results. The great superiority that my vines have exhibited throughout the country, warrants the confident belief that I can, as heretofore, furnish the best and cheapest vines that can be offered.

The introduction and dissemination of the Delaware vine was an event of the utmost importance in American Grape Culture, in giving us a most hardy and enduring vine, superior to all others, in habit and character, as well as in the surpassing quality of its fruit, which fitted it to become "the educator of American taste," to use the apt expression of Mr. Peter B. Mead. Until shown by the practical test of the Delaware, the great excellence attainable by the native grape was not known. From the extensive dissemination of this variety, the American taste has already become, to a considerable extent, educated, and ready to appreciate and accept those only that are capable of yielding the highest degree of refreshing enjoyment.

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But it is my happiness to be able to offer, in two seedlings of my own, grapes which, without any defect, combine more excellence than any hardy grape in cultivation, and which will fully satisfy the most highly cultivated taste, formed by the use of the Delaware, Allen's Hybrid, and the best Foreign kinds in their highest condition. These are an event of not less importance than the accession of the Delaware, and are named as follows:

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DELAWARE VINES

AT

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PLANTERS who are forming Vineyards,
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NURSERYMEN who wish plants for stock,
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Of which they offer

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These plants are produced from cuttings of bearing vines.

None of them are propagated either by layering or grafting, and they are so grown as to ensure an abundance of fibrous roots and thoroughly ripened wood.

The testimony of those who have purchased them for the last two years is of the most favorable character.

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The Proprietors can also furnish

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1 year old, No. 1, very strong, $3; No. 2, strong, $2
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All cut back to 3 to 5 eyes. No inferior vines will be sent out by me. Purchasers can rely on the quality of my vines being unsurpassed. Will be forwarded in sealed boxes by express, without charge for boxes. Small orders will be securely packed and sent by mail, pre-paid, when so ordered.

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All vines grown in open ground. Small and large fruits generally. Russell's Prolific and 20 other kinds. Strawberry Plants, Evergreens and Shrubs. Send for Catalogue.
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Hyacinths,
Tulips,
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We have a splendid collection of

French Hybrid Gladiolus

which will be offered after the first frost, also

White Rose and Red Japan Lilies.

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BEAUTIFUL COLLECTIONS

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6 Fine Named Double and Single Hyacinths, *for pots, glasses, or open border*
1 Polyanthus Narcissus
3 Double Tulips } $3.
12 Fine Mixed Crocus
1 Bulbocodium Vernum

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9 Fine Named Double and Single Hyacinths, *for pots, glasses, or open border*
6 Fine Double Tulips
15 Beautiful Named Early Tulips
25 Fine Mixed Crocus } $8.
3 Polyanthus Narcissus
6 Double Narcissus
3 Bulbocodium Vernum
3 Persian Iris
12 Double Snowdrops

No. 3.—ASSORTMENTS OF

18 Fine Named Double and Single Hyacinths, *for pots, glasses, or open border*
50 Fine Mixed Crocus
24 Beautiful Named Early Tulips
12 Fine Named Double Tulips
4 Polyanthus Narcissus } $15.
12 Double Narcissus
3 Persian Iris
3 English Iris
1 Crimson Crown Imperial
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Double Red, without names, per doz.,			$3 00,	per 100, $23 00
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" White,	"	"	3 00,	" 23 00
" Blue,	"	"	3 00,	" 23 00
" Yellow,	"	"	3 00,	" 23 00
Finest Named Double Varieties,		"	9 00,	" 70 00
Very Fine "	"	"	7 50,	" 58 00
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Mixed Double Tulips, all colors, per doz.,	$1 50,	per 100	$10 00
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Duc Van Thol, { Red, White, Yellow, Vermilion & Scarlet }	uss'd 2 50,	"	18 00
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Mixed Blue, Purple, White, Striped, Yel. & variegat. each color, per doz.,	$ 50,	per 100	$3 00
Named Varieties, 24 sorts, each, "	1 00,	"	6 00
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Ranunculus, " " "	1 50,	"	10 00
Polyanthus Narcissus, "	3 00,	"	20 00
Narcissus Poeticus, "	1 50,	"	10 10
Bulbocodium Vernum, "	2 00,	"	2 00
" " folia striata, "	12 00,		
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Orders by Mail promptly forwarded.

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Horticultural and Seed Warehouse,
Nos. 922 and 924 Market-st., above 9th,
Philadelphia, Pa.

HARDY FLOWERING BULBS,

FOR FALL OF 1864.

MY **ILLUSTRATED ANNUAL CATALOGUE** of HARDY DUTCH and other Flowering Bulbs, and

Guide to the Flower Garden,

is now ready to send out. It consists of full and plain descriptions of the best

Hyacinths, Tulips, Crocuses, Snow Drops,

Crown Imperials, Anemones, Lilies, &c., &c.,

with ample directions for planting and culture. My Catalogue this season is beautifully illustrated, containing among other illustrations two full page engravings, and one beautiful colored plate of the

JAPAN LILY.

It is sent free of postage to all who apply, inclosing ten cents. Catalogues always sent to my customers of the previous year, free, as soon as issued, without being ordered.

My importations from Holland the present year have never been equalled for extent, variety and excellence.

Address **JAMES VICK,**
Rochester, N. Y.

FROST & CO.,

Genesee Valley Nurseries,

ROCHESTER, N. Y.

Parties who desire to purchase **first quality Standard or Dwarf Fruit Trees, Small Fruits, Ornamental Trees, Shrubs, Plants, &c., &c.,** in large or small quantities, are solicited to inform themselves of our stock and Prices.

Our Nursery contains nearly **FOUR HUNDRED ACRES,** which enables us to fill orders even of the most extensive character, while particular attention is given to orders amounting to small sums.

Our stock will be supplied at the most **favorable rates.**

The following **Catalogues** with prices are furnished on application upon receipt of five cents for each.

No. 1 and 2. **Descriptive priced retail** Catalogue of Fruits, Ornamental Trees, Plants, &c.

No. 4. **Wholesale priced Catalogue** of Fruits, Ornamental Trees, &c., for nurserymen, dealers and others, who wish to buy in large quantities for the Autumn of 1864.

Address FROST & CO., Rochester, N. Y.

Standard Pear Trees!!

OF

Very Superior Quality.

We have a large stock of **Standard Pears,** SPLENDID TREES, strong, healthy, and thrifty—leading sorts in large supply. ALSO

An extensive general assortment of **Fruit and Ornamental Trees, Shrubs, Roses, Grape Vines, Evergreens, &c., &c.** A large lot of **Norway Spruce,** size 2 to 4 feet—strong, well established plants.

Nurserymen, Dealers, and all intending to purchase, are invited to call and examine our stock. Catalogues sent on receipt of a three cent stamp.

T. C. MAXWELL & BROS.,
Geneva, Ontario Co., N. Y.

REID'S NURSERIES,

Elizabeth, New Jersey.

DAVID D. BUCHANAN, Supt.

Offers for sale this fall, a fine stock of 1st quality of Fruit Trees of every description, especially Standard and Dwarf Pears, which are extra strong.

Ornamental and Evergreen Trees of all kinds. Shrubs, Grape Vines, &c., &c.

Our trees are very strong and vigorous, the wood has ripened well and they are in fine condition for fall planting or transportation.

Parties dealing with us can rely on having none but those of the first quality.

The Public are respectfully invited to call and examine our stock.

CATALOGUES SENT ON APPLICATION.

Stephen Hoyt & Sons,

Offer a large stock of thrifty and well grown

FRUIT TREES,

consisting of Standard and Dwarf Apples, Pears, Cherries, Plums and Peaches, as well as the smaller

FRUITS AND GRAPE VINES.

They also invite attention to their large and fine stock of Evergreens and Deciduous Ornamental Trees.

Also a fine and large stock of two year old Apple and Sugar Maple Seedlings. Catalogues sent to applicants.

STEPHEN HOYT & SONS,
August 13th, 1864. New Canaan, Conn.

BLOOMINGTON NURSERY.—220 Acres Fruit, Ornamental and Nursery Stock, 75,000 Pear, 40,000 Peach, 100,000 Grape, &c. Send red stamp for Fall List.
F. K. PHOENIX, Bloomington, Ill.

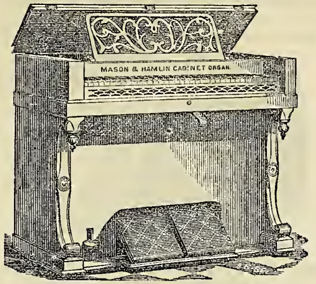
Sidney Nursery.

The undersigned offer for sale, at low rates, **150,000** Standard Apple and Pear Trees, also a general assortment of Nursery Stock. The attention of Tree Dealers and Planters is solicited, and a correspondence invited.

I. C. COE & CO.,
August, 1864. Sidney, Shelby Co., Ohio.

Mason & Hamlin's

CABINET ORGANS



CAUTION TO PURCHASERS.

The wide demand for our **CABINET ORGANS** has induced dealers in some cases to advertise quite different instruments as CABINET ORGANS, and in others to represent to purchasers that Harmoniums and other reed Organs are the same thing. THIS IS NOT TRUE. The excellences of the

CABINET ORGANS

which have given them their high reputation, arise not merely from the superiority of their workmanship, but also in large measure from essential differences in construction, which being patented by us, can not be imitated by other makers. From these arise their better quality and volume of tone, and capacity for expression. Every CABINET ORGAN has upon its name-board in full, the words,

"Mason & Hamlin Cabinet Organ."

When a dealer represents any other instrument as a CABINET ORGAN, it is usually a mere attempt to sell an inferior instrument on which he can make a larger profit.

THE CABINET ORGAN

is designed for Parlors, Churches, and Schools, and is recognized by Musicians as unquestionably superior to all other small Organs, and every thing of the Melodeon or Harmonium kind. Full description of instruments with testimonials, sent free to any address.

PRICES FROM $110 TO $600.

Warerooms;—No. 274 Washington-st., Boston, Mass. MASON & HAMLIN.

No. 7 Mercer-st., New-York. MASON BROTHERS.

NEW MUSIC BOOK FOR SCHOOLS.

THE SONG-GARDEN.

SECOND BOOK,

By Dr. LOWELL MASON,

Is now ready, containing a large number and great variety of New Songs, Rounds, Exercises, &c., with the Elements of Musical Notation. The series is designed to include three books, progressively arranged, but each book complete in itself. The First and Third Books will be issued as soon as ready. Price of SONG-GARDEN, SECOND-BOOK, $8.00 per dozen. One copy will be sent post-paid to any teacher, for examination, on receipt of seventy-five cents. For sale by MASON & HAMLIN, Boston, Mass.

Published by MASON BROTHERS, New York.

New Music Book for Choirs and Singing Schools.

THE KEY NOTE.

BY WILLIAM B. BRADBURY.

This work is the result of Mr. Bradbury's collecting and composing for several years, and is everywhere being received with the greatest favor by the most experienced singers and musicians. The extent of Mr. Bradbury's popularity may be judged from the fact that of his last book, the Jubilee, over Two Hundred Thousand have been sold, and of his entire works more than Two Millions.

In addition to its rich collection of Tunes and Anthems the KEY NOTE has a great variety of Exercises and light Glee Choruses, suited to social or singing school use. It is plainly printed, one part only on a staff, and but two tunes on a page, so that the eye is not wearied by a succession of thickly set notes; and in every particular it is believed the lovers of good music at church and at home will find the KEY NOTE just adapted to their wants.

Price $1.50 on receipt of which sample copies will be sent pre-paid, by mail. For sale by MASON & HAMLIN, Boston.

Published by MASON BROTHERS,
No. 7. Mercer-st., New-York.

WASHING DAY

IN THE DARK AGES!

TO HOUSEKEEPERS EVERYWHERE

IF you don't want your clothes twisted and wrenched, and pulled to pieces by the above old-fashioned BACK-BREAKING, WRIST-STRAINING and CLOTHES-DESTROYING process of washing and wringing, go before next washing-day and buy one of the best LABOR-SAVING, CLOTHES-SAVING, HEALTH-SAVING, TIME-SAVING, and MONEY-SAVING inventions of the age,

THE

UNIVERSAL CLOTHES WRINGER

—WITH—

COG WHEELS

53,818 SOLD IN 1863

46,814 sold in the first five months of 1864.

PRICES.

No.		Price	Size of Rolls. Length.	Diameter.
1	Large Family Wringer,	$14	11¼ in.	2¼ in.
1½.	Medium "	12	11¼ in.	1⅞ in
2.	Medium Family "	10	9¾ in.	1⅞ in.
2½.	Small " "	9	10¼ in.	1⅝ in.
3.	Small " "	8	8¾ in.	1⅝ in.
8.	Large Hotel "	20	14 in.	2¼ in.
18.	Med. Laundry "	30	17½ in.	2¼ in.
22.	Large " "	45	17½ in.	3⅛ in.

Nos. 18 and 22 to run by Steam or Hand, Pullies, $4 per pair.

Nos. 2½ and 3 have Rolls so small that cogs can not be used. All others are

WARRANTED.

On receipt of the price, from places where no one is selling we will send the U. C. W., FREE OF EXPENSE.

In reply to the question, "HOW LONG WILL IT LAST?" we can only say, "As long as a wash-tub, cooking-stove, or any other family utensil." See testimony of ORANGE JUDD.

"We think the machine much more than PAYS FOR ITSELF EVERY YEAR in the saving of garments! We consider it important that the Wringer be fitted with Cogs, otherwise a mass of garments may clog the rollers, and the rollers upon the crank-shaft slip and tear the clothes, or the rubber break loose from the shaft. Our own is one of the first made, and it is as GOOD AS NEW after nearly FOUR YEARS' CONSTANT USE."

They are for sale in nearly every town in the country. Wherever they are not already introduced we want a

GOOD CANVASSER.

The **EXCLUSIVE RIGHT OF SALE** will be guaranteed to the first responsible applicant for the territory. Liberal inducements offered and Descriptive Circulars furnished by

R. C. BROWNING, General Agent,
347 Broadway, New-York.

☞ *For full description and testimonials of the UNIVERSAL WRINGER, please refer to back numbers of the Agriculturist.*

THE NONPAREIL WASHING MACHINE

Is the only entirely reliable Washing Machine in existence

It has been in constant use in the family of Mr. Judd, the Proprietor of this Journal, and in that of Mr. Munn, proprietor of the Scientific American, since 1861. For description see advertisement in preceding numbers of the Agriculturist.

☞ **Send for free Circular to**

OAKLEY & KEATING, 184 Water-street, New-York.

Steel Composition Bells.

THE AMERICAN BELL COMPANY.
(Office No. 91 Liberty-street, New-York.)

Are the only manufacturers of this description of Bell, either in this country or in Europe—the combining of certain metals, and the process of manufacturing the same being the discovery of the President of the Company. These Bells we can commend with great confidence to the public, for their cheapness and quality of tone. We furnish a 500 lb. bell with all the necessary appointments—including Harrison's patented Self-acting Rotary, for $125, and one of 1000 lbs. with like appointments, for $244, the price for the Bells being 20c. per pound, and that of the hangings of the first, $25, and those of the latter $44. Our circulars containing full details, will be forwarded free of charge to all parties desiring the same.

STAMMERING.

And Stuttering cured by Bates's Patent Scientific Appliances. For (new edition of) Pamphlets and Drawings describing the same, address H. C. L. MEARS, 277 West 23d Street, N. Y.

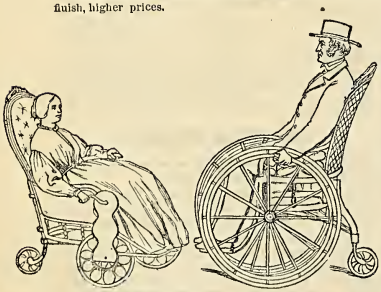
Wonderful Cradle!!!

Brown's Patent Baby Tender, a vertical and noiseless SPRING CRADLE, easily converted into a novel and delightful Baby-jumper, Baby-walker, High Chair, Nursery Chair, Hobby-horse, or Ottoman. The Baby Tender is emphatically the Mother's great want, and a blessing to Children. It is safe, healthy, strong and durable, obviates the evils of rocking, and **saves the expense of a hired Nurse.** Send for Circular containing description, prices and high testimonials. Agents wanted.

BROWN & CO., 483 Broadway, New-York.

The Wonderful CANTERING HORSES

Afford the most delightful out-door exercise and amusement all the year round, and are especially attractive for Country places in summer time. They run by weight of the rider, and are guided by the bridle. Prices $10 to $27 each; extra finish, higher prices.



THE INVALID'S Patent Traveling Chairs

To use in Hospitals, in Houses, and Out-doors.

The No. 1, is propelled by a crank with one hand and guided by the other hand. Prices $20 to $10.

The No. 4, is propelled and guided with the hands on the rims of the side wheels. This kind may be pushed by a child if the invalid has no use of the hands. Prices $15 to $30.

Send stamp for Circular and Price Lists.

STEPHEN W. SMITH,

493 Broadway, above Broome-st., New-York.

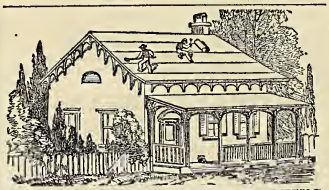
GROVER & BAKER'S

HIGHEST PREMIUM

ELASTIC STITCH SEWING MACHINES.

"Grover & Baker's are the best."—*Am. Agriculturist.*

495 Broadway, New-York.



GUTTA PERCHA CEMENT ROOFING

Is Fire and Waterproof, and can be applied by any laborer. It costs about one-third as much as tin, and is more durable.

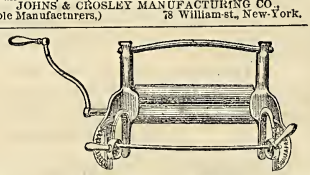
GUTTA PERCHA CEMENT PAINT

As applied to leaky roofs of all kinds, will render them perfectly water-tight. It is put up ready prepared for use. This paint is particularly adapted for painting Out-houses, Barns, Fences, &c., &c.,

These materials have been tested on more than twelve thousand roofs during the past six years.

Full descriptive particulars furnished by the

JOHNS & CROSLEY MANUFACTURING CO.,
(Sole Manufacturers.) 78 William-st., New-York.



Putnam Clothes Wringer!

IT IS THE ONLY RELIABLE

SELF-ADJUSTING WRINGER.

NO WOOD-WORK TO SWELL OR SPLIT.

NO THUMB-SCREWS TO GET OUT OF ORDER.

WARRANTED WITH OR WITHOUT COG-WHEELS

It took the FIRST PREMIUM at Fifty-seven State and County Fairs in 1863, and is, without an exception, the best Wringer ever made.

Patented in the United States, England, Canada, and Australia. Agents wanted in every town and in all parts of the world.

No. 2, $8 00. No. 1, $9 00. No. F, $10 00. No. A, $11 00.

Manufactured and sold, wholesale and retail, by the

Putnam Manufacturing Company,

NO. 13 PLATT STREET, NEW YORK,

—AND—

CLEVELAND, OHIO.

S. C. NORTHROP, Agent.

WHAT EVERYBODY KNOWS, VIZ:

That Iron well galvanized WILL NOT RUST;

That a *simple* machine is BETTER than a *complicated* one;

That a WRINGER SHOULD BE SELF-ADJUSTING, DURABLE, and EFFICIENT;

That *Thumb Screws* and *Fastenings* cause DELAY and TROUBLE to *regulate* and *keep in order;*

That wood soaked in hot water WILL *swell, shrink* and *split;*

That wood bearings for the shaft to run in WILL *wear out;*

That the PUTNAM WRINGER, with or without Cog-wheels, WILL NOT TEAR the clothes;

That Cog-wheel regulators ARE NOT ESSENTIAL;

That the PUTNAM WRINGER has *all* the advantages, and *not one* of the disadvantages above named;

That all who have tested it, pronounce it the *best* Wringer ever yet made;

That it will wring a *Thread* or a *Bed Quilt* WITHOUT ALTERATION.

Thorndale South Downs.

Having recently purchased from Samuel Thorne, Esq., his entire flock of celebrated South Down Sheep, I am enabled to offer for sale about 75 head of this favorite breed, comprising 50 Ewes of various ages, and 25 Rams (yearling and lambs). All sheep sold will be delivered at the boat or railway free of charge.

Having previously purchased of Mr. Thorne, the celebrated Imported Ram, Archbishop, bred by the late Jonas Webb, Babraham, England, I take pleasure in announcing that he is now reunited to the flock to which he has already given so much reputation. GEORGE H. BROWN,

Millbrook, Washington Hollow, Dutchess Co., N. Y.

FOR SALE.—DOMESTICATED WOOD DUCKS, as represented in the American Agriculturist for September. J. M. PEDDINGHAUS,

Colchester, Conn.

ROUEN DUCKS.—A few pairs pure blood, very large, and beautiful, (caged and forwarded) at $5 per pair. Address EDEN DAVIS, Webster, Mass.

150 to 200 Rocks dug in 10 hours.

A new Machine for digging and drawing Rocks, laying Wall, &c. Please send for Circular, to

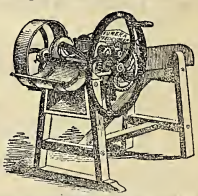
G. L. SHELDON,

New Marlboro, Berkshire Co., Mass.

THE EUREKA FEED CUTTER.

A Cutter adapted to the wants of Farmers.

FIRST RATE FOR CORN STALKS, HAY and STRAW.



This machine CRUSHES and CUTS the heaviest corn stalks and hay and straw with great rapidity by either hand or horse power. It is well made, simple, durable, and effective. Is easily operated, and knives ground by ordinary farm help. Send for a circular, furnished FREE. Manufactured only by

H. K. PARSONS, Agent,

NOVELTY WORKS, HARRISBURG, Pa.

Sanford & Mallory's FLAX AND HEMP DRESSERS

are no longer an experiment. Over 200 No. 1 Brakes have been sold and are in

PRACTICAL USE.

A pamphlet will be sent free of charge by writing.

JOHN W. QUINCY, AGENT,

No. 98 William-st., New-York.

TESTIMONIALS.

ESPERANCE, N. Y., April 8th, 1864.

Messrs. Mallory and Sanford:

GENTLEMEN,—We have used your Patent Flax Brake since last September, and take this opportunity of saying, that for rotted flax it exceeds anything that we are acquainted with of the brake kind; it not only saves flax and time, but keeps it straight and even. Wishing you success in this great invention. We remain yours truly,

JACOB GARDINER & SON.

WILLIAMSTOWN, Mass., April 9th, 1864.

Messrs. Mallory and Sanford:

GENTS.—I have been using one of your No. 1 Patent Flax Brakes since January last, driving it with a horse power. I am perfectly satisfied with it, and think it will do all and more than recommended. My neighbors think yours far superior to the Old Brake, and, in fact, the best brake ever seen. DEWITT C. SMITH.

Messrs. Mallory and Sanford: April 11th, 1864.

GENTLEMEN,—I have been requested to give a statement of an acre and one-half of flax raised by me last season; it being a very rainy time when rotted, to get over it, so much so, that it was very tender. I took it up in the month of November last. I was told by a neighboring flax-mill man, that he had a Brake that was an improvement on the old-fashioned Brake, and could get more flax from it than Wilcox could get from your Brake. So I concluded to take part to each mill; so I took 120 bundles to T.'s mill, and got FORTY-EIGHT pounds. (Old Brake). I took the remainder 220 bundles to Wilcox's mill, and got ONE-HUNDRED and SIXTY-TWO pounds—the straw was all alike, and the dressing good in both cases. I get from Old Brake 144 pounds, and 222 by your Brake, making by your Brake 107 pounds to the ton in favor of your Patent Brake. This is quite an item with me, as I am a ropemaker, and the flax is worth 25 cents per pound to me. WILLIAM TILTON.

GREENWICH, Washington Co., N. Y., April 11th, 1864.

Messrs. Mallory and Sanford:

GENTS.—In reply to your inquiry, would say, that we sold the Brake we bought in the fall of 1862, and bought two more of yours in November, 1863, and have had them in practical use since that time, and think the fine rollers having twenty-four flutes (instead of the twenty-two of the old pattern) a decided improvement. We shall break from four to five hundred acres with them this season.

Yours truly, EDDY, DYRE & CO.

See their certificate of last season, page 15, 1863.

NEWCASTLE, Pa., April 11th, 1864.

John W. Quincy, Treas. of M. & S. F. and H. Machine Co.,

DEAR SIR.—In answer to your request for our opinion in regard to Sanford & Mallory's Patent Flax Brake, we would say, that we have been using one of their four set rollers (screw motion) Brakes since last fall, and it does the work perfectly, and entirely to our satisfaction.

Yours respectfully, KUWER & TAYLOR.

Millstone Dressing Diamonds

Set in Patent Protector and Guide. For sale by JOHN DICKENSON, Patentee and Sole Manufacturer, and Importer of Diamonds for all Mechanical purposes. Also Manufacturer of Glaziers' Diamonds, No. 64 Nassau-st., New-York City. Old Diamonds reset. N.B.—Send postage stamp for Descriptive Circular of the Diamond Dresser.

Premium Farm Grist Mill.

Simple, cheap and durable—adapted to Horse Powers—grinds all kinds of grain rapidly.

IMPROVED HAY, STRAW AND FODDER CUTTER,

Superior to any in use, and adapted for Horse or hand Power.

SEND FOR DESCRIPTIVE CIRCULARS, and address
WM. L. BOYER & BRO.,
Agricultural Implement Manufacturers,
Philadelphia, Pa.

Bruce's Concentrated Manure.

Those who have used the above valuable fertilizer the past year, give it the preference over

No. 1 Peruvian Guano, Bone, or Poudrette.

In the year 1862, some **fifty tons** were sold. Last year orders came in to the amount of **four hundred tons**, only half of which could be filled. This year we shall manufacture **FIVE THOUSAND TONS.**

Its "component" parts are:

40 per cent. of Animal fibre and Blood.
40 per cent. of pure Ground Bones.
20 per cent. of Absorbents.
The absorbents are Charcoal and Gypsum.

Price **$45 Per Ton**, packed in barrels 250 lbs. In each. Send for Circular. Send your orders to
GRIFFING BROTHER & CO.
58 and 60 Courtlandt-st., New-York.

Ammoniated Pacific Guano.

A real guano, containing from seventy to eighty per cent of Phosphate of Lime; to which has been added by a chemical process, a large percentage of actual Ammonia, so fixed that it can not evaporate, making it equal, if not superior, to any other fertilizer. Price $80 per nett ton. A liberal discount to the Trade.

Pamphlets with copies of analysis by Dr. Jackson, Mass. State Assayer, and Dr. Liebig, of Baltimore, and testimonials from scientific agriculturalists, showing its value, can be obtained from J. O. BAKER & CO., Selling Agents.
131 Pearl-st., New-York.

MICHIGAN LAND FOR SALE.—560 acres in Barry County, 25 acres improved. Will be exchanged for an Eastern Farm. Address DINSMORE & CO.,
26 Cedar-st., New-York.

FARM FOR SALE.—One of the most desirable, and best watered stock farms, of 632 acres, in the State, well wooded, and supposed to contain coal. Price, $25 per acre, crop, stock, and implements included. For particulars Address DR. GILLIAM, Northampton, Peoria Co., Illinois.

SUPERIOR FARM LAND.—20,000 Acres at low prices and accommodating terms.—Franklinville and Lake Tract.—Gloucester County, New-Jersey, 25 miles south of Philadelphia on Railroad running from Philadelphia and Camden to Cape May. In sub-sale purchasers. Circulars with reports of Solon Robinson, Hon. Wm. Parry, and others, with full information, sent free by addressing JOHN H. COFFIN & CO., or WILLIAM ARGOTT, Franklinville, New-Jersey. Also improved farms from 20 Acres upward.

Prairie View Farm for Sale.

A beautiful farm of 160 acres situated near the Fox River, in Kendall Co., Ill. Substantially improved with good fences, house, barn, fruit, &c.

A fine Durham Stock, Horses, Tools, and Household Furniture for sale with the farm if desired.

Address P. PORTER WIGGINS,
Oswego, June 30th, 1864. Oswego, Kendall Co., Ill.

"MARYLAND FARMS."

We are agents for the sale of nearly

Four Hundred Farms

in this State. A printed list of them can be obtained by sending postage stamp to

R. W. TEMPLEMAN & CO.,
No. 48 Lexington-st., (up stairs) Baltimore City, Md.

S. B. CONOVER,
Commission Dealer,

260, 261 & 262 West Washington Market,
FOOT OF FULTON-ST.

Particular attention paid to selling all kinds of Fruit and other Farm Produce.
Refers to the Editor of the American Agriculturist.

NOTICE TO SHIPPERS
OF
Tallow, Lard, Bacon, Pork, Beef
AND
GENERAL WESTERN PRODUCE.

The undersigned pay their particular attention to the sale of the above articles, and

Consignments sent to them will be
PROMPTLY DISPOSED OF
AND
QUICK RETURNS MADE

on very advantageous terms.
We issue a WEEKLY PRICE CURRENT of the above articles, which we mail gratis to those sending their address.

ABRAM KNIGHT & SON,
32 Water-st., New-York City.

Farmers, Countrymen, and Country Merchants

Can send their

Butter, Cheese, Eggs, Lard, Tallow, Beans, Hops, Flax, Cotton, Flour, Grain, Meal, Green and Dried Fruits, Furs, Skins, Poultry, Game, Provisions, Seeds, Sorghum, Wool, Potash, Tobacco, Oils, and other produce to

JOSIAH CARPENTER,
COMMISSION MERCHANT,
323 Washington-street, New-York.
Near Erie Rail Road Depot.

To be sold at the highest market price. Every shipper to him will receive his valuable Weekly Price Current of the New-York Market free.

BOARD WANTED for a lady and two children, in some healthy place, within a hundred miles of N. Y., with a private family where there are no children. Soft drinking water preferred. Address Mrs. A. WOOD, Closter, Bergen Co., N. J., stating size of rooms, terms, etc.

TRUSSES.—RADICAL CURE OF HERNIA OR RUPTURE.—Dr. S. N. MARSH, of the well-known house of Marsh & Co., No. 2 Vesey-st., Astor House, opposite the church, devotes special attention to the surgical adaptation of his Radical Cure Truss. Also every kind of Trusses, Supporters, Shoulder Braces, Elastic Stockings, and Mechanical appliances for Deformities. (A lady attendant.)

$275. SEVEN OCTAVE. **$275.**
ROSEWOOD PIANO-FORTES.

GROVESTEEN & CO., **499** Broadway, N. Y.

New, enlarged Scale Piano Fortes, with latest improvements. Thirty years' experience, with greatly increased facilities for manufacturing, enable us to sell for **CASH** at the above unusually low price. Our instruments received the highest award at the World's Fair, and for five successive years at the American Institute. Warranted five years. **Terms net Cash.** Call or send for descriptive circular.

To Every Person who can Sing.
IF YOU WISH

A Good Music Book for your Choir.
A Music Book that is New and Attractive.
A Music Book that Everybody Admires.
A Standard Book for Musical Conventions.
The Best Music Book for Singing Schools.
The Most Popular Church Music Book.

OBTAIN A COPY OF

"The Harp of Judah,"

By L. O. EMERSON.

Nearly Fifty Thousand Copies of this superior book were sold during the first six months of its publication. Price in Boston, $1.37. Specimen Pages sent free. OLIVER DITSON & CO., Publishers, 277 Washington-st., Boston, Mass.

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DEMOREST'S ILLUSTRATED MONTHLY
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MME. DEMOREST'S
Mirror of Fashions
COMBINED,

Contains a brilliant array of Novelties and interesting Stories, Comprising

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THE TWISTED RING,
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Mailed Strawberry Plants, Wilted but not Dead.—Very much to our gratification, many of the first on our list have written that their plants reached them by mail in a perfectly *fresh* condition, and when set out started at once into vigorous growth, sending out runners. This is better than we can usually expect. The best gardeners cut off all the old leaves and stems when they transplant strawberries, leaving the whole vigor of the roots to go to the growth of new leaves from the crown; and they advise this practice. But, as this is not generally understood, and also to let the recipients see what vigorous leaves the plants have borne, we generally send along most of the foliage, expecting that it will wilt and usually die in the mail parcels. This does not at all affect the soundness of the roots; if these are not thoroughly dried out, the plant will grow quite as well as if the leaves were still green, when set in the moist soil if not too cold and wet. We wrap the roots first in fine damp moss and oil-cloth, then in a thick sheet of specially prepared heavy paper almost waterproof, and then in an outside sheet of sized paper; and the whole is firmly tied three or more times. It is very seldom that the roots of plants thus packed will so far dry out in ten days, or more even, that they will not grow well. We have received plants not so well packed which had endured a month's carriage. The mailing boxes were designed to wholly shield the plants from pressure, as well as from drying. Why they were not used is explained in another column. (See page 284.)

Continuation of the $5.00 PREMIUM.

With printing paper at triple the old price, and other expenses to match, we are compelled to adhere strictly to our only terms, viz., **$1 a year.** Nor until Lieut. Gen. Grant, and his coadjutors reduce the price of gold and cotton (and consequently of printing paper), can we afford premiums. But the recent excellent weather has favored us by pushing on the great Strawberry Plants until we have some more than enough to supply every subscriber with a specimen. Experienced fruit growers esteem them so highly as to readily pay $5 a dozen for them. As these now involve little additional outlay, we can continue the offer of last month as follows: Any person sending in during this month (Oct.) a Club of 20 subscribers, at $1 each, will be presented with **One Dozen** of the "Agriculturist Strawberry" plants; AND each subscriber will of course, be also entitled to his own plant, if he enclose the usual 5 cents extra for packing, and postage. When $1.15 is sent (instead of $1 each), the paper will be supplied *fifteen months*, that is, the last three months of this year, and all of 1865, (Vol. 24).—Extra time will be allowed for responses to the above offer, coming from the Pacific Coast and other very distant points.—The plants will now be forwarded at once, or early in spring if requested.

Special Notes to all Expecting or Wishing Strawberry Plants.

1st. See explanation of delay, and Box failure, p. 284.

2nd. The Plants are mailed at Flushing P. O., the nearest office to our Homestead, where they are put up. This is not our business address, however. Direct all letters to the Office, 41 Park Row, New-York City.

3d. Every parcel is sent *post-paid*; the law requires this, and no Postmaster is allowed to send any other than post-paid matter. We hear that in some cases the parcels have arrived without any stamps on; owing to the dampening through of the envelopes, the stamps slipped off in the mail bags. The marks left by them and the P. O. imprint ought to show that postage had been paid. On hearing of this difficulty, after sending off the first parcels, the envelopes were stamped "PAID," by the P. M., in addition to the usual "killing" of the stamps.

4th. N. B.—We cheerfully give every subscriber for Vol. 23 (1864), at least one plant, on furnishing his 5 cents extra to pay simply the expense of putting up and mailing. (It has cost us more than that, and there is no profit on the paper this year to pay even this small sum.) A good many attempts have been made to impose upon us by persons not subscribers at all, who have in a very ingenuous, plausible manner, enclosed 5 cents and said, "Please send my plant to——etc." Some others have sent in the 5 cents and applications from 2 to 6 times, expecting us to overlook previous applications in our hurry, and send them as many different parcels. This has made it *necessary* to look over the previous list of names in every case where an application comes separate from the subscription—a very serious trouble. **Therefore,** *as a rule for the future, we must require every one wishing the plants to send the application and 5 cents,* **along with** *the subscription and always in the same letter.*

5th. All *new* subscribers, either for this year or next, coming in this autumn, will be presented with the plants, *if* they send the 5 cents extra at the *time* of *subscribing*.

6th. Applications arriving too late for forwarding the the plants this fall, will be supplied at the earliest moment the weather will admit in the spring. Any one can choose the spring season, if he does so when subscribing.

7th. Any well attested case of loss of plants by mail we will be happy to duplicate, on receiving the extra cost (5 cents) of sending again. So much care has been constantly exercised, that we do not believe a single proper application has been omitted, or overlooked by us.

90,000 Bushels of Strawberries!—We are sending out at least 90,000 of the new Strawberry Plants this year. Each of these plants will with fair care make from 50 to 200 or more new plants next season, or enough to set a bed that will yield *over* a *bushel* of good berries the following June. This should be the lowest average. So, if then living, we shall have the pleasure of thinking a year from June next, that at least 90,000 bushels of good, delicious strawberries are being gathered by our "*American Agriculturist* Family—all derived from the plot we have been watching over with so much care and anxiety during fifteen months past.

Strawberry Plants for Sale.—Our obligations to our subscribers are fulfilled, and we have some plants of the *Agriculturist* Strawberry to offer for sale. We have been induced to do this from the desire frequently expressed by nurserymen and others to have it upon their lists, and from the repeated solicitation of amateurs for more than the free specimens given them as subscribers. The distribution of 90,000 plants this fall was all we expected to be able to accomplish, particularly after the unprecedented drouth, and we attribute it chiefly to the great vigor and hardiness of the variety, that we have now any surplus stock on hand, even after the most careful and unremitting attention—involving a large outlay for a small part of which we hope to be reimbursed.—Cash orders will be promptly filled at the following rates, as previously announced, viz: **1** plant 75 cents—**2** plants $1.20—**6** plants $3—**12** plants $5—**100** plants $25. Only good, strong plants will be sent out and they will be well packed without charge, and sent by mail, postpaid, when desired.

Awful Price of Printing Paper!—After correspondence with the leading Paper Mills of the country, we made the best contract possible for a supply the rest of this year; but the bills as they come in are enough to give one a "cold sweat." The subscription money received little more than pays for the white paper; advertisements must pay other expenses. But we still cling to old rates, under the strong impression that *Messrs. Grant, Sherman, Sheridan & Co.*, will very soon knock down prices. So confident are we of this, that we dare to solicit, and promise to receive during this month, new subscriptions at $1 a year, or $1.15 for fifteen months. If the price of paper does not go down, we shall be compelled to charge more; and of course those subscribing later, will have to pay higher rates.

NOTA BENE.—NOTE WELL.

All terms, subscription rates, premiums, prices of books, etc., are strictly limited to the month in which they are announced. The constant changes in currency oblige us to adopt this rule. The same terms may be continued, but can not be promised. Whatever is promised for any month will be fulfilled to the letter; if we get the bad end of a bargain, we shall live up to it. For example, those paying a year's subscription now will get the paper a year at the rate now offered, however high we may soon be compelled to fix our rates.

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Notes and Suggestions for the Month.

The frosts of October, and the bracing winds, now and then almost wintry, warn us to prepare for the cold weather, which approaches with such steady marches from the ice-caves of the North. The year has poured out almost all the contents from her "Horn of Plenty," and man has garnered them. Our granaries are full and our barns crowded with the harvests. Fruits are gathered and roots are fast filling up the measure of the bountiful store. It now remains to make those final preparations for winter, which are necessary for us in order to take advantage of its hours of comparative freedom from severe labor. See how each bud has its winter jacket, padded or furry, and of many folds. The leaves in the forest and orchard protect the tender plants which seek the shelter of their moist shade. The cattle have their thick winter coats, the birds thicker plumage, and the wild animals have made provision in a much more remarkable degree. We subject plants and animals to very unnatural conditions of life when we domesticate them, and of course should conscientiously guard them from suffering, and the evils of exposure to the cold. While we rejoice in the bounties of Heaven, and give thanks for our full harvests, and that, though in a fearful struggle for national life and integrity, our country still holds its place among nations, let us remember those whose barns are not full, because the strong arms that would have sowed and garnered the crops, have been reaping harvests of laurels on the battle field.

Work for the Farm, Barn, and Stock Yard.

Buildings.—Every thing should be put in order for cold weather, which often comes as early as the middle of the month. Banking up earth against foundations, boarding up stables inside, tightening the outside boarding, stopping leaks in the roofs, setting glass where panes are broken, are each important at this season. All stables ought to be provided with glazed windows, into which the sun may shine freely.

Butter.—Feed the cows roots, pumpkins and meal, bran and oil cake, or something of the kind to keep up the butter product. This is as good as gold to pay debts in Europe, and will bring high prices while foreign exchange is high.

Cabbages.—Bury as described last month. They afford a very nutritious milk-making food for cows, and when no decayed leaves are fed, will not flavor milk, if fed after morning milking.

Cattle.—Push forward the fattening of beeves as fast as possible. The best flesh is laid on before the coldest weather. Give the shelter of good warm sheds to young stock, and stable the milch cows. If this be not possible, give the best protection you can. The straw shelters described in the Jan. *Agriculturist* of this volume are now important to many Western farmers.

Cellars.—See that there is perfect drainage, and that water cannot run in, even in the worst weather. Make them neat, healthy and light, by whitewash. Stop the rat holes with cement mortar filled with broken glass, and "point up" cracks and loose spots in the foundations.

Cisterns.—Protect against winter. It is not too late to make a good one. Durable farm cisterns are made by cementing right against the earth, as repeatedly described in the *Agriculturist.* Empty foul cisterns and clean them out thoroughly, early in the month, that they may be filled afresh before the snow comes.

Corn.—As early as possible have it all husked and placed in dry, airy cribs, or spread out on warm and dry floors. Corn husks, well baled, meet a ready sale at high prices in Eastern cities.

Draining.—So long as the ground continues open, if it be all winter, keep hands at work at this important business. It is much better for a farmer to bury his money in the earth, in the shape of well laid tiles, 4 feet deep, than to put it in the best bank in the world, while the labor thus expended is that which can not be immediately converted into money. No one who does a little good draining will stop with that.

Fences.—Poor fences are a temptation to people to steal rails for firewood, and the careless farmer is in part answerable for the crime.

Fruit.—Handle carefully; one bruise rots an apple. Apples packed in barrels in dry leaves keep longer than packed in any other way we know, and will bear transportation better. Keep fruit in a cool place, but where it will not be frosted. Cider made from selected sound apples, and when special care is taken to have everything clean, is superior to most wines.

Grain.—Rats, mice and other vermin have free chance at grain so long as it is in the sheaf. Get it all threshed and ready for market as soon as possible. Keep it always clean and bright, in the most marketable order for high prices.

Hedges.—Thorns and other deciduous plants may be set so long as the ground is open.

Hogs.—Keep clean, well bedded, and sheltered; supply cooked food if possible. Litters of early pigs may now be provided for, allowing for the sow to go about four months with young.

Horses.—See to it that the stables are well ventilated and light—easily cleaned out and warm. Blanket a horse when he is standing out of the stable, or when he first comes in, and at night; too much blanketing is injurious.

Leaves furnish an excellent material for manure. Collect all that you can. They answer for bedding, but are not a good absorbent of liquids.

Manures.—See notes in last number. Get out much muck to be exposed to the weather in winter, for use next year; collect every thing that may increase the supply in the hog pen, stables, barn yard, or compost heaps of manure.

Plowing.—Fall plowing tells, particularly on land which is not well drained and is late in drying in the spring, also on foul land, and on heavy clays that are ameliorated by the frost.

Potatoes.—Be sure that potatoes in pits in the open ground have good ventilation and drainage, but are well covered. Those in cellars should be dry and cool, but not so cold as apples.

Poultry in warm, light, clean quarters will, if the hens be well fed, secure plenty of eggs all winter. Feed freely those destined for market. Prices are usually best just before or after the holidays. Scraps from beef and pork are fattening, are much relished, and induce laying.

Pumpkins.—See notes in October *Agriculturist.*

Roots.—Store in cool cellars after sweating; free them from tops and dirt when put in.

Sheep.—Provide comfortable sheds, give them a good range; if housed, free ventilation and clean quarters, not crowded. Each sheep should have 10 to 15 square feet surface room, (equivalent to a space 2½ by 4 feet, or 3 by 5 feet for each one); not more than 100 to 150 should be confined in the same room. Turn in the buck this month for April lambs, but they do better if dropped in May, in colder localities.

Sugar Sorghum.—It bears some frost, but ripens little after the leaves are frozen. Such cane ferments rapidly and must be worked at once.

Turnips and carrots.—Dig before the ground is liable to freeze, and store them after sweating.

Winter grain.—It is better for it to have too much growth than too little. Never feed off a this late season. Look to the surface drains, that water may not stand in them, and that side hills be not exposed to washing by overflowing.

Wood for fuel.—Much good fuel may be collected from that which has broken and blown down, dead trees, etc., both in orchard and forest, as well as from old fences, bridges, etc., which should be replaced with sound stuff.

Orchard and Nursery.

The general directions given in October last, for the care of fruit, planting trees, etc., will usually be timely for the early part at least, of this month. There will be a plenty of work for the orchardist and nurseryman until the ground is hard frozen.

Cider.—Continue to make as directed last month. It often pays better to convert fruit into cider or vinegar than to dispose of it in any other way.

Cions.—If more convenient to cut them now, it may be done, but not until vegetation has wholly ceased. Bury in the cellar in slightly moist sand.

Cellars.—If fruit is stored in cellars, provide for ventilation; keep open until in danger of freezing.

Insects.—Continue to destroy cocoons and eggs.

Labels.—Have everything correctly labelled, especially new plantings, or have such a perfect record that every tree can be instantly identified.

Manure.—Spread a good coating of manure over the roots of the trees as far out as they extend.

Packing Trees.—The best nurserymen use boxes altogether, as they are more expeditiously packed, are easier handled and the trees go more safely. Steamboats often refuse trees packed in straw.

Stocks.—Take up seedling stocks of apple, pear, etc., put them close together in a dry place; cover the roots with sufficient earth to exclude frost.

Seedlings.—Those of ornamental trees, especially evergreens, need an inch or two of sand or sandy earth sifted over the bed. Give all the half hardy kinds a shelter of cedar or other evergreen boughs.

Cuttings.—Make of currant, quince, and other shrubs propagated in this way, and bury them in the cellar, or what is better, tie them in bundles, and dip the lower ends in mud for one third their length and set them in a cool cellar, and if there is danger of drying, sprinkle occasionally, as needed.

Heel in all trees and shrubs which cannot be well planted out this season. See article on page 317.

Plowing.—Turn a furrow against the nursery rows.

Kitchen Garden.

As long as the ground is not frozen, something can be done to save work in spring. Lay drains wherever they will be of benefit. Trench or subsoil, and throw stiff soil up into ridges to expose it to the action of frosts. Much of the work indicated for last month will lap over into this.

Asparagus.—Make new beds as directed last mouth. Cover old beds well with stable manure.

Beets, Carrots.—Finish harvest before hard frosts.

Cabbages.—Put into the trenches, as directed last month, or into the cellar. If any young plants remain, transplant to cold frames for spring use.

Celery.—Continue the earthing up. Harvest when in danger of freezing; keep as directed last month.

Compost.—Increase the stock by the additiou of the refuse accumulated in clearing up the garden.

Cold Frames.—See directions on page 286 (Oct.) Put in cabbage, cauliflowers, lettuce, and all plants requiring protection. Give air on every warm day and bank up and cover as the cold increases.

Onions.—Give those left in the ground over winter a cover of litter. Ventilate those stored.

Parsnips and Salsify.—Leave the main crops in the ground; dig enough for use when these are not accessible and preserve in sand in the cellar.

Poles, Stakes, Frames, and all kinds of wooden appliances and implements are to be under cover.

Rhubarb.—Make new beds from divisions of the old roots—each piece should have a bud. Set in rich ground and cover the bed with coarse manure.

Spinach.—Cover lightly with litter, against cold.

Turnips may grow until in danger of freezing.

Fruit Garden.

The directions given in October may in the main be followed as long as the soil can be worked. Planting may continue, or if the soil is not thoroughly prepared, heel in the trees and vines and devote the time to deepening and enriching the soil and have it ready for early spring planting.

Blackberries may be set as directed last month.

Currants and Gooseberries.—Set out rooted plants. Make cuttings as directed under orchard and nursery. Old bushes may have a dressing of manure.

Dwarf Trees.—Apple and pear trees may still be planted. Thrifty well grown trees 3 or 4 years from the bud are preferable to old and overgrown ones.

Figs.—Protect them as directed on page 295 (Oct.)

Grape Vines.—Plant in deeply worked, good, but not over rich, soil. The Grape Notes in successive numbers give our estimate of the different varieties. For a selection of six we should take Delaware, Concord, Creveling, Iona, Allen's Hybrid, and Diana. If more are needed, Union Village, for its wonderful size and beauty, Hartford Prolific for early and prolific bearing. The Israella deserves trial, and so does the Adirondac. Vines one or two years old from the bud are preferable to older ones. Prune this month and lay down the vines, and in cold localities cover them with earth for winter.

Raspberries.—Set out roots. Bend down canes of old plants of all good kinds, and cover with earth.

Strawberries.—Cover the beds with straw, litter or leaves before severe weather. Cover the crowns of the plants but slightly, so as not to smother them.

Flower Garden and Lawn.

There is still work here, but it consists in clearing up and in preparation for next season. Any changes in the plan of the grounds or laying out of new improvements can be done at this season.

Bulbs. Tulips, Hyacinths, Crocuses, and other spring bulbs may be set as directed last month. Before the ground freezes take up Gladiolus, Tigridia, Amaryllis and others planted in spring. Dry and store in a cool, dry place out of reach of mice.

Climbers.—The tender ones, like Wistaria, will need to be laid down in northern localities, and protected by a covering of earth.

Chrysanthemums.—When frost has finally destroyed their beauty cut away and remove the old stalks.

Dahlias.—Take up before freezing weather. Lift the roots carefully and do not break them from the main stem. Do this on a fine day, let them remain a few hours in the sun, and store them where they will not freeze—under the stage of the greenhouse, or in boxes of dry sand in the cellar. Any plan that will keep potatoes will preserve dahlias.

Hedges.—Those of deciduous shrubs may be set now in well prepared soil. A hedge of dwarf pears planted two feet apart makes an appropriate division between a fruit and other garden, and is fruitful as well as ornamental. Clip like other hedges.

Frames and Pits.—All half-hardy plants, such as roses, carnations, etc., are to be placed here and have plenty of air when the weather permits. Directions are given on page 286 (October number.)

Lawns.—In laying out new ones, manure, plow, and subsoil, grade, level and roll. Seeding had now better be left until early spring. Rake the leaves from established lawns, apply a good top dressing of compost, and if the soil is light, roll.

Perennials—Pæonies, Phloxes, etc., may be reset.

Roses.—The tender sorts can be set in a cool pit or be heeled in and their tops covered with sandy soil or with coal ashes. Lay down the climbers and pillar roses, and cover lightly with earth.

Protection.—Give tender perennials a covering of manure over the roots. Wind a cord around Swedish junipers and such spire-like evergreens, to keep snow from breaking them down. Provide a shelter of cedar boughs or a rough thatch of straw for the more tender kinds of Rhododendrons, for Mahonias, and other broad-leaved evergreens.

Transplant all hardy deciduous trees and shrubs.

Green and Hot-Houses.

The varying weather will require care as to temperature. In the Green-house, where things are not expected to grow, 35° to 45° will do. In the hot-house it may range from 60° to 75°, and even higher according to the character of the plants. The amount of watering will depend upon the temperature. In those houses where the plants are kept in a state of rest, but little will be needed. Ventilation should be given freely, whenever the outside temperature will allow the sash opened.

Bulbs.—A good stock is to be potted for winter flowering. They may be kept in a cool place and brought into a warmer one a few at a time, and thus keep up a regular succession of Hyacinths, Tulips, Ixias, Oxalis, and other bulbs in bloom.

Camellias. — Syringe frequently. Place some where there they will come into flower early, and retard others as much as possible.

Ferns need cautious management. The plants should not be given too high a temperature at once nor allowed to be too cool.

Insects.—Most of these revel in a warm moist atmosphere. Meet them at the start. Syringing, hand-picking and fumigation are the chief tactics.

Propagating.—A stock of all the rapidly growing things, such as Cupheas, Pelargoniums, Salvias, etc., put in now will soon make flowering plants.

Cold Grapery.

If fruit still remains upon the vines, remove decaying berries. Keep the house as dry as possible, closing the ventilators only in damp weather.

Apiary in November.

Prepared by M. Quinby—By Request.

When a proper selection of stocks for winter has been made, there will be no bees inclined to rob. There is little to be done now, unless something has been neglected. If, from timidity, any one has been deterred from making a thorough examination of his hives, he may remember that the first severe freezing seems to chill them more than zero weather in January, and he would do well to take advantage of this period to investigate the condition of his stocks. Such as cannot be wintered, for want of stores, should be taken up, even now. That kindness is sadly misdirected, which would save the lives of the bees now, and let them starve and freeze, before spring, for want of sufficient numbers to keep one another warm. If desirable, hives may be painted now, with but little detriment to the bees in them. Those intended for swarms another year, are much better painted now, than in the spring, for hives recently painted are often deserted. Either do it long beforehand, that the rank odor may be entirely gone before they are used, or do not paint them at all. The glass surplus boxes not filled should be set away in some dry place for another year. Set them right side up to keep out the mice, and in a place cold enough to freeze and destroy the eggs of the moth, that may be in them.

Farm Produce Markets—Gold.

(Oct. 17)—The markets for all kinds of produce, and particularly for breadstuffs, continue in a very unsettled state. The prices of flour and wheat have varied greatly during a month past. The fall of gold from 230, to 185 at one time, produced a panic among grain speculators, especially at the West, which toppled over some of the largest operators. Breadstuffs, butter, cheese, petroleum and gold are the chief products exported to pay for foreign importations. Gold being the basis of exchange, the other articles rise and fall with it in value, and this must continue to be the case until gold and the legal currency become nearly of equal value. The prospect for a time was, that gold would continue to decline under the more favorable military prospects that have prevailed for some time past. But this was rapidly carrying down the currency values of all kinds of imported merchandise as well as of the exportable articles above named, and other home products sympathized with foreign goods in price. Importers and dealers generally who have considerable stocks on hand are therefore deeply interested in keeping up the price of gold to the highest possible point, and they are purchasing and holding or exporting all they can command. As gold is limited in amount, it is the more easily controlled, and its fall in price involves less loss than a like decline in their larger stock of goods and produce. These dealers can well afford, if thoroughly combined, to buy gold enough to keep the price up to 300 or more, until their present stocks of goods and produce are worked off. The above causes, with a lull in active military operations and successes, while the new recruits to the armies are being drilled and placed in position, have enabled operators to carry gold up again to 215, and it may temporarily go higher. If the grand military successes so confidently expected by most people should be soon realized, gold will go down with a rush, and the prices of all other commodities with it, unless the above combination shall be so complete as to keep gold up for a short season

longer. Of course farmers will sell now, or hold on; just according to their hope and faith in the immediate success of our armies. The price current table gives the wholesale rates at the two dates named. Wheat and flour, though materially lower than one month ago, are considerably higher than they were a fortnight since. The dealings in Wool, Cotton, Tobacco, Hay, Hops and Seeds, have been quite limited, and though sympathizing with gold and breadstuffs, are far less disturbed in price. The market, however, is just now so excited and unsettled, that it is difficult to fix reliable price quotations.

The following condensed, comprehensive tables, carefully prepared specially for the *American Agriculturist*, show at a glance the transactions for a month ending October 15th, with other interesting comparative figures.

1. TRANSACTIONS AT THE NEW-YORK MARKETS.

Receipts.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
26 days *this* m'th.	339,000	1,313,000	1,190,000	187,000	321,000	1,925,000
25 days *last* m'th.	349,500	1,213,000	1,329,000	2,000	51,000	1,354,000

Sales.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*
26 days *this* month,	278,000	1,365,000	1,437,500	94,000	118,000
25 days *last* month,	457,500	1,676,000	1,421,000	5,100	1,600

2. *Comparison with same time last year.*

Receipts.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
26 days 1864....	339,000	1,313,000	1,190,000	187,000	321,000	1,925,000
25 days 1863....	354,000	1,839,000	2,363,000	25,000	44,800	612,000

Sales.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*
26 days 1864......	278,000	1,365,000	1,437,500	94,000	118,000
25 days 1863......	555,000	3,366,000	4,493,000	30,800	361,000

3. *Exports from New-York Jan. 1 to Oct. 15.*

	Flour, bbls.	Wheat, bus.	Corn, bus.	Rye, bus.	Oats, bus.
1864.......	1,658,945	11,552,792	789,597	453	37,795
1863.......	2,816,765	12,982,582	7,414,704	415,249	117,599
1862........	2,446,328	19,097,373	9,228,402	1,016,018	133,631

CURRENT WHOLESALE PRICES.

	Sept. 15.	Oct. 15.
Flour—Super to Extra State	$9 35 @10 35	$8 00 @ 9 15
Super. to Extra Southern	11 00 @15 50	10 50 @14 50
Extra Western	9 85 @12 50	8 75 @13 00
Extra Genesee	10 40 @12 00	9 15 @12 25
Superfine Western	9 35 @ 9 85	8 00 @ 8 50
Rye Flour	8 00 @ 9 50	8 25 @ 9 75
Corn Meal	8 00 @ 8 50	7 65 @ 8 00
Wheat—All kinds of White	2 35 @ 2 55	2 10 @ 2 40
All kinds of Red	2 05 @ 2 35	1 81 @ 2 12
Corn—Yellow	1 63 @ 1 65	1 55 @ 1 56
Mixed	1 62½@ 1 63	1 52 @ 1 53
Oats—Western	88 @ 90	85 @ 86
State	88 @ 89	84 @ 86
Rye	1 60 @ 1 65	1 30 @ 1 40
Barley	Nominal.	1 67 @ 1 95
Cotton—Middlings, per lb	1 78 @ 1 80	1 10 @ 1 15
Hops, crop of 1863, per lb	18 @ 38	15 @ 35
Hops, crop of 1864, per lb		38 @ 50
Feathers, Live Geese, p. lb	Nominal.	72½@ 75
Seed—Clover, per lb	Nominal.	Nominal.
Timothy, per bushel	Nominal.	5 00 @ 6 00
Flax, per bushel	Nominal.	3 00 @ 3 10
Sugar—Brown, per lb	19 @ 24½	17 @ 21
Molasses, New-Orleans, p.gl.	1 05 @ 1 25	90 @ 1 10
Coffee, Rio, per lb	47 @ 51	36 @ 39½
Tobacco—Kentucky,&c,p.lb.	14 @ 38	12½@ 40
Seed Leaf, per lb	25 @ 65	25 @ 65
Wool—Domestic fleece, p.lb.	1 00 @ 1 18	80 @ 97½
Domestic, pulled, per lb	85 @ 1 12½	65 @ 90
California, unwashed	30 @ 75	25 @ 60
Tallow, per lb	18¼@ 19	15½@ 17
Oil Cake, per tun	90 00 @105 00	75 00 @80 00
Pork—Mess, per bbl	42 62½@43 00	43 00 @43 00
Prime, per bbl	38 50 @39 50	39 00 @40 00
Beef—Plain mess	16 00 @19 00	13 00 @17 00
Lard, in bbls., per lb	23⅛@ 24½	20 @ 22
Butter—Western, per lb	40 @ 48	28 @ 35
State, per lb	48 @ 56	36 @ 45
Cheese	19 @ 27½	12 @ 21
Beans—per bushel	2 50 @ 2 90	1 50 @ 2 55
Peas—Canada, per Bushel	2 00 @ 2 10	2 00 @ 2 00
Eggs—Fresh, per dozen	27 @ 29	28 @ 29
Poultry—Fowls, per lb	16 @ 18	16 @ 17
Turkeys, per lb	22 @ 23	18 @ 20
Spring Chickens, per pair	50 @ 1 00	50 @ 1 00
Potatoes—Mercers, p. bbl	5 00 @ 6 00	3 00 @ 3 50
Peach Blow, per bbl	5 00 @ 5 50	2 75 @ 3 00
Dykemans, per bbl	5 00 @ 5 50	2 50 @ 3 00
Apples—Western, per bbl	3 00 @ 4 00	2 75 @ 3 00
Apples—Fall Pippins, per bbl	2 00 @ 3 50	1 00 @ 1 75
Apples—Common per bbl	1 50 @ 2 00	2 00 @ 3 00
Cranberries, per bbl		12 00 @ 5 00
Quinces, per 100		1 25 @ 1 75

New York Live Stock Markets.—Beef Cattle.—The weekly receipts have averaged 6,277, an increase of about 300 over last month. The supply of light, young and medium cattle continues large, while really fine beeves are scarce. The market the past four weeks has been fluctuating, but closes firm at rates varying little from one month ago. Prime beeves at 18@ 19c ℔ lb., for the estimated dressed weight; medium to good, at 13⅛@17½c, and the poorer and lighter grades at 8@13.

Milch Cows.—Average weekly supply 154. Prices about the same as last month, $40 to $70 for fair to good cows, and $80 to $90, and higher, for fancy milkers.

Veal Calves.—The receipts have averaged 2,300 per week. Good veals arrive sparingly, and sell at 11@12c. per lb., live weight; extras bring more; grass-fed calves from $6 to $12, according to quality and weight.

Sheep and Lambs.—Weekly arrivals have averaged 22,752, a considerable increase over last month. Good sheep have declined a little. Present prices 8¼@ 8½c per lb., live weight, for the better grades. Lambs $4,50@$6,50 per head, and 9½@10c per lb. for good stock.

Live Hogs.—The average supply per week has been 13.518, which is much higher than at this time last year. Prime corn-fed are worth 12@13½c per lb. live weight. Grass fed swine are selling at 9@11c per lb.

Additional Contributions to the "American Agriculturist Sanitary Fund."

Wm. Waite	Tioga	N. Y.	$1 00
James Nichols	Tioga	"	1 00
Jonathan Wilber	Tioga	"	50
Mrs. O. M. Kilpatrick	Allegany	"	2 00
Mary Elizabeth Bullard	Allegany	"	1 00
Sam.'l Demilt Haviland	Kings	"	1 00
Martin Todd	Westchester	"	5 00
A. S. Wood	St. Lawrence	"	2 00
Joel H. Luttenton	Orleans	"	1 00
P. H. Hayes	Broome	"	50
G. B. M.	New York	"	5 00
James Stafford	Essex	"	1 00
Geo. W. Leach	McKean	Pa.	5 00
C. S. Cobb	Wayne	"	5 00
Elijah Fassett	Wyoming	"	1 00
Chas. O. Newton	Hampden	Mass	1 00
A. Bowman	Christian	Ill.	90
Chas. Foster	Champaign	"	1 00
Willie U. Taylor	Greenville	"	5 00
N. Mayer	Du Page	"	95
Mary M. Turner	Cumberland	West Va.	1 50
W. H. Grant	Monmouth	N. J.	4 00
Edw. Wheeler	Kalamazoo	Mich	1 00
Mrs. S. J. Crossman	Berrian	"	1 00
J. Brown	Koscinsko	Ind.	6 00
Carrie Wooters	Franklin	"	5 00
Jacob Gerssen	Leavenworth	Kansas	1 00
J. Q. Cowee	Shawnee	"	1 00
G. W. Gillett	Lorain	Ohio	80
Mrs. E. M. Baeyfogel	Delaware	"	2 00
Louisa Van Tassel	Mahoning	"	1 00
Geo. W. Page	Litchfield	Conn	3 00
E. Dickerman	Middlesex	"	1 00
J. W. Tryon	Rutland	Vt.	4 00
R. M Probstfeld	Clay	Minn	5 00
J. M. Kuntze	Polk	Wis.	2 00
J. G. Staedler	Sonoma	Cal	1 00
W. J. Cochran	Warren	Iowa	1 00
Lavinia P. Caldwell	Buchanan	Mo.	2 50

The N. Y. State Agricultural Fair.

This Fair held at Rochester the last week in September, could not be noticed in our October number; we shall, at this late day, only note down some general features. The thing which impressed us most as connected with the Fair, was the great numbers of intelligent, well-to-do looking, orderly people, who came to see and learn. We doubt if a finer representation of the agricultural community was ever assembled. No better comment upon our beneficent government, our general education, and the diffusion of knowledge through the agricultural and other papers, could be found, than the multitude assembled at the Fair. Another noteworthy feature was that the efficient superintendent, Mr. John Harold, had everything ready, and if the Fair was not at its best the first day, it was the fault of the exhibitors. Before the gates were opened, every pen and stall was provided with food for the animals which were to occupy them—an example which other managers of Fairs will do well to follow. Among the conspicuous things on the ground was the Beater Hay Press, of which we have already given a description. It always had an admiring crowd around it. Numerous Hay Forks were at work each claiming to be better than any other. Mills' self-adjusting Wind-mills were in operation, and appeared to be an excellent contrivance for utilizing a power which usually runs to waste, in pumping, etc. We thought that human ingenuity in contriving a great many machines to accomplish one end, had been exhausted on washing machines—but mowers and reapers seem to be as numerous as washing machines. There were so many that we became fatigued with looking at them. Easterbrook & Bronson's Willow Peeling machine struck us as being just the thing for the purpose. The willow passes through rollers which loosen the bark and then it is removed by a scraper. Of course Doty's washing machine was there—it is making its way everywhere. The show of fowls was very large and fine. Some White Guinea fowls were new and curious, and some of the Cayuga Black Ducks looked "good enough to eat." The sheep men were present in considerable numbers, with specimens of the various breeds of this now favorite stock, but of these as well as the cattle, horses, swine, etc., we have not space to speak. The Floral tent was a great centre of attraction—great in respect to its size as well as its contents. It was arranged and tastefully decorated by Mr. James Vick, the well-known florist and seedsman of Rochester. The show of flowers was good, and that of fruit very fine. An excellent show of grapes was made by F. C. Brehm, of Waterloo, and C. W. Seelye, of Rochester. A collection from Hammondsport, was very good. Bronson, Graves & Selover, of Geneva, N. Y., exhibited well-grown specimens of exotic grapes, including some of the rarer kinds. The display of vegetables was not large, but included some good specimens. There was a general lack of labels. Exhibitors should recollect that we all know beets, onions, and even beans, but we do wish they would put on the name of the variety. So we might go on mentioning noteworthy things to an indefinite length, and yet describe nothing. In short the fair was a success in the number of things exhibited, in the attendance, in the weather, and in the receipts, which were large even for New-York.

The Pennsylvania State Fair.

The exhibition was held this year at Easton, on the finely arranged grounds of the Northampton County Agricultural Society. Here were furnished to hand for the use of the society abundant room for easily damaged articles, in the fine central building. The cattle and implement sheds were well arranged and ample, and a tolerably level half-mile track added to the attractions, which in fact engrossed the attention of three quarters of the visitors. The very centre and best portion of the ground was given up to what are commonly called "*side* shows," and some of these were of the most disgusting character. The days were rainy; the attendance very fair, and the concourse of people very orderly and respectable. The show was full as regards most classes of farm implements, and women's handiwork, and one would think the shops of the town had been emptied of most of their best looking wares. The show of horses was reputable, including some full blooded Arabs. As for *Neat Cattle*, there might better have been none. There may have been a score all told—no Ayrshires, Alderneys or Herefords—three or four Devons which were perhaps pure-blooded, two or three tolerably good Short-horn cows, and a lot of grades. We were refused access to the list of entries by the Secretary, and could not blame him much, but felt *ashamed* with him and for him, for the credit of the State; there were really almost none to show. There was not a single fine-wool sheep shown, but several pens of long-wools and some good southdowns, which are great favorites with the farmers of this region and the neighboring hilly counties of New Jersey. The *Swine* show consisted of a very fine assortment of Chester Co. Whites, shown by three brothers of Chester County, besides a pen of 14-weeks pigs, by a near neighbor. The credit of the rest of the State was sustained by one Essex boar, and one naturally three-legged sucking pig. Of the class of poultry we could not find *a feather*. There was some tolerably good cheese from New York State, and fair butter from the neighborhood, but no good show of dairy products. As we were refused a sight of the books, some things may have been overlooked. The fruit show was only fair—good grapes being exhibited by Knox, of Pittsburg, and others—while that of vegetables and cereal grains was very meagre, but the tent in which they were was arranged with great good taste. It was a matter of common report that the Society was managed by a set of "*politicians*," who used it to place themselves favorably before the public. If this be true it is a disgrace to the farmers of this noble agricultural State. Certain it is, for some cause, the farmers of Pennsylvania neglect their State Society, so that its Exhibitions rank with county fairs of that and other States.

The Nurseries at Rochester, N. Y.

The genial climate and the great variety of excellent soil around Rochester have helped make it a focus of nursery business. We mention a few of the places we saw during a recent sojourn there, in the order in which we visited them. The Genesee Valley nurseries of Messrs. Frost & Co., cover some hundreds of acres, distributed in several farms along the Genesee river. A large portion of their nurseries are on new land, and their stock presents an unusually healthy appearance. Over the office of this establishment is a remarkably fine specimen of *Celastrus scandens*, figured and described on page 244 (August.) From there we went to the Mount Hope Nurseries, of Ellwanger & Barry, who have 500 acres devoted to the nursery business. Their specimen grounds are widely known, and enable the visitor to see almost every variety of fruit in bearing. A broad, finely kept grass walk extends for a long distance through the grounds; this is bordered on either side by specimens of *herbaceous* flowering plants, and beyond these are specimen hedges of almost every plant that can be made to grow as a hedge. Nothing can be finer than the view from the elevated portion of this promenade. Their specimen vineyard is some distance from the home grounds, and contains most of our native varieties in bearing. One of the most attractive things at this nursery is a large rock work planted with a great variety of the cactus family, which gives one a most excellent idea of Mexican vegetation, without the trouble of traveling far to see it. At Messrs. Seelye & Sibley's, where grapes are largely propagated, were fine specimens in fruit. Here

we saw the Creveling in much better condition than any from Pennsylvania. At the grounds of Hooker & Co., we saw the cement tanks for heating propagating houses, about which there has been so much discussion. All the young stock here gave evidence of successful propagation. These are all the nurseries we had time to visit, but there are many others which are worthy of notice. We must not forget the flower garden of Mr. James Vick, whose seed advertisement figures so largely in our advertising columns at the proper season. It is probably the largest collection of annuals to be found in the country. Any one interested in any branch of horticulture can pass several days with pleasure and profit in the suburbs of the beautiful city of Rochester.

Containing a great variety of Items, including many good Hints and Suggestions which we throw into small type and condensed form, for want of space elsewhere.

Agricultural Companies—Caution. Many have lately written to the *American Agriculturist* Office, inquiring about the reliability, prospects, etc., of sundry enterprises, here and elsewhere, called "Agricultural Companies," and other similar names, and designed to speculate or deal in land, manures, and implements, and to publish papers, etc., etc. We can only answer in a general way: Great caution is needed in all such cases. First, obtain from some independent reliable source, definite information about the parties engaged in getting up any enterprise. What has been their previous history. Have they failed in other business operations, or in any way broken faith with the public. If honest, have they really business capacity and tact, or merely business ambition and a sanguine temperament. If they have failed from any cause to carry out their own enterprises, will they be likely to succeed any better in managing the affairs of an Association? Then, as to the enterprises themselves. Are there really good reasons for expecting success? The promoters, or their agents, and circulars, may give a golden coloring, perhaps honestly, perhaps not. Some can only see the favorable side of a question; they may fail a dozen times, and yet not learn to calculate the drawbacks when they get hold of a new scheme. Thirdly, do not be lured by the show of well-known names on the list of stockholders. These are often put down without the consent or knowledge of the persons themselves, and in other cases men carelessly allow their names to be recorded as stockholders (receiving as a return, a free share or two) in an enterprise which appears plausible to them, but which they have not time to investigate.

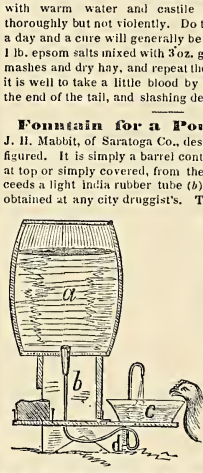
To Stop a Cow Milking Herself.—Henry Bill, New London Co., Conn., bought an Alderney cow very cheap because she would milk herself, which nearly destroyed her value as a milch cow. At the advice of a neighbor, who performed the operation, he split the end of her tongue, as shown in the engraving. The cut is 2 inches long, just starting the blood at the beginnng, but cutting clean through at the tip for ¾ of an inch. He reports, "It worked like a charm; I have no further trouble with her." The reason why it is effective is obvious to any one who has ever let a calf suck his finger, and noticed the clasping pressure of the tip of the tongue.

A Bran Mash.—When horses or cows are sick and it is desirable to give them change of diet, or a light and somewhat aperient food, a bran mash or hot mash is recommended. This is considered to mean simply a pailful or less of hot water thickened with bran, salted, and stirred well so as to soak thoroughly, and cooled a little before feeding. The additions of from a gill to a pint of molasses, a handful or two of ashes, and some ginger, one or all, are frequently made, and are useful according to the object for which the mash is given.—"B" of Genesee Co., Mich., recommends a tonic or strengthening mash composed of 6 quarts bran, 1 teacupful brown sugar, 1 tablespoonful ginger, 1 teaspoonful saleratus, 1 teaspoonful black pepper, and 1 handful salt.

Cattle Lice.—"N. S.," Floyd County, Iowa. These parasites probably exist in very small numbers in almost all herds. When the cattle are dirty and poorly fed, (as on nothing but straw, which was the case you mention,) and fallen off in flesh, lice increase very rapidly, so that if the stock continue neglected, the vermin will literally devour them alive. Clean cattle, with enough to eat, are seldom troubled with lice. All cattle ought to be rubbed down and brushed occasionally, and then rubbed *hard* with a woolen cloth (a bit of blanket) greased with whale oil or lard. When infested with vermin apply "unguentum," (*Unguentum Hydrargyri*, mercurial ointment,) and make sure work at once. Let the strong ointment of the druggist be well rubbed together with 4 times its bulk of lard, and of this apply a mass as large as a hickory nut to a calf. Rub it in behind the horns, and down the neck and back; finally spread it as much as possible, by rubbing thoroughly with a greasy cloth. Be very careful about applying too much, or leaving it in lumps so that even the least particle may be licked off.

Bloody Garget.—A. F. G. It is not hard to cure the Garget; but a cow may have a tendency to it which will hold on for years. With us, successful practice has been to bathe the bag gently, no matter how tender and swollen it may be, in arnica (3 parts quite warm water, 1 part tincture of arnica), to take the soreness out; then as soon as the cow will bear it let the calf "butt it down," or knead it with the hands, finally washing it with warm water and castile soap, and stripping it thoroughly but not violently. Do this three or four times a day and a cure will generally be effected. If not, give 1 lb. epsom salts mixed with 3 oz. ginger, feeding on bran-mashes and dry hay, and repeat the bathing. Sometimes it is well to take a little blood by parting the hairs over the end of the tail, and slashing deep with a sharp knife.

Fountain for a Poultry House.—J. H. Mabbit, of Saratoga Co., describes the contrivance figured. It is simply a barrel containing water, (*a*) open at top or simply covered, from the bottom of which proceeds a light india rubber tube (*b*), which may easily be obtained at any city druggist's. This tube passes over the strip (*d*) which is attached to the frame which supports the cask, and terminates in an upright bent metalic tube, as shown in the figure. A horizontal board is attached by a hinge to the frame in such a way that a pan may be set and *securely fastened* upon one end, so as to be under the bent tube. This pan is a little more than balanced, *when empty*, by a brick, or other weight, on the other end of the board. The barrel being filled, the water flows into the pan until it brings it down upon the rubber tube which lies under the board, and this shuts off the flow, which is renewed when so much water is drank by the fowls as to make the end of the lever on which the pan is, the lighter.



An Eccentric Hen.—Orvill Kellogg writing to the *American Agriculturist* from Fayette Co., Pa., gives the following curious account; "In a stable on the farm of Mr. Geraudi of this place, are three little pigs, probably six weeks old. One which we call a 'titman' generally takes the middle berth when turned in for a snooze. As soon as the mother was removed from the pigs an old white *hen* took up her quarters with them, and seemed determined to make them comfortable, manifesting in all respects the same care and attachment that a hen does to her brood, clucking and calling them when finding a good morsel; and to carry out fully her motherly care, she broods them as she would over chickens. She does this by getting astride of the little one which lies in the middle and extending her wings so as to cover those on either side. No amount of force or moral-suasion will induce her for one moment to leave her adopted family, but if the pigs are interfered with in any way, she is as ready to fight their battles as though they belonged to the feathered tribe." Pretty well for Mrs. Biddy.

"Will it Pay to Raise Ducks?"—The pictures of ducks recently given in the columns of the *American Agriculturist* call forth many queries. No doubt ducks will eat beans, leaf and pod, if they can can get at them, and they will eat many other things too; so it surely will not pay to let them have the run of the garden. The best way to raise ducks is to fence off a large yard in which is a pond fed by a stream, and shaded by trees or shrubs. In this the ducks will do no harm and will thrive. The ducklings should be put in as soon they begin to wander much away from the coop, the old hen being left with them till she can no longer brood them.

Blinders on Horses.—"W. S. G.," of Hartland, Vt., warns us against indiscriminately recommending our readers to dispense with blinders, giving this incident: "A four year old Black Hawk colt, being bitted and driven without blinders, was put before a one horse sled and started. The result was a runaway, and the spoiling of a $200 horse."—This was not at all because he had not blinders, but because the sled was behind him. Had he been gradually accustomed to the sled by having a man to lead him on one side, and one to draw the sled on the other, without its being attached to him, after a few minutes he might have been regularly "hitched" into the thills, and driven well enough. Common sense is an excellent thing to have about the stable. A young horse should never be trusted in novel positions or where he is likely to be alarmed—but be gradually accustomed to new things, and always be kept under control.

Coal Ashes for Grass Land, etc.—The ashes of mineral coals differ greatly in quality. Nearly all, however, may add valuable ingredients to the soil, and most produce a very good effect upon heavy clayey land. Joseph Morgan, of Penn., thinks we do not sufficiently value them, and says that he has made use of the article for more than 20 years, and, if well applied, prefers it to barnyard manure in some locations, that it is improved by lying a few years exposed; and that, with the addition of a little phosphate and plaster of Paris, he has raised on a heap of coal ashes as fine pumpkins as he ever saw.

Grass in a Lawn.—We can not name the specimens, as there is neither fruit nor flower. It does not seem to be "Kentucky blue grass." That is not a weed but makes an excellent lawn, and the more you have of it the better. For a guess, this is *Poa compressa*, or wire-grass, sometimes called blue-grass. An abundance of good grass on rich land ought to crowd it out.

Hungarian Grass, has, we learn from correspondents, been quite extensively sown in some parts of the West, for hay for the use of the army.

Grain in Orchards.—"H. E.," Reading, Mass. It is a well known fact that grain checks the growth of orchards, unless a very heavy manuring accompanies it. Wheat, the ground being previously well manured, would no doubt be better than rye, for which the ground is seldom manured. A crop of roots is much better, for these need an enriched and well stirred soil.

Muskegon Co., Mich.—Jacob Wheaton settled three years since on a quarter section farm—a "run-over sand plain," supposed by many "to be totally unproductive, being too light." He farmed on the green manuring principle, turning under clover. He has made a comfortable living, put up a new dwelling and outhouses, stocked his farm with improved breeds of animals, has 60 acres in good cultivation, 700 fruit trees, (150 of which were on the place before, and are now thrifty and in bearing,) and clears $800, in this year of drouth, from his crops. All this with little capital, after buying the farm, but head and hands. Land about him as good as his was originally, sells at $1.25 to $2.00 per acre, and he offers readers of the *Agriculturist* who want to purchase and will come to see him, a "Michigan welcome." If we were to give his address, his house would be full for the next six months. He says nothing about fever and ague; perhaps there is none?

Cabbages which Don't Head.—O. Moffat, Wapella Co., Iowa, writes to know how to treat badly headed cabbages. They may be set out in a dry cellar, or a pit may be made for them. The engraving shows a section of a pit. It is dug wide enough for 3 or 4 rows of cabbages, and deep enough to allow the tops of the heads to be about level with the surface. The plants are set out in the pit as closely as they will stand, and covered with a roofing of rough boards. As the weather increases in severity the boards are to be covered with straw and a coating of earth thrown on to keep the frost out. Provide ventilation at the ends during mild weather. The object is to keep them from freezing, and at as even a temperature as possible.

Wintering Cabbages.—J. J. H. Gregory, the great raiser of cabbage seed at Marblehead, Mass., gives in the *Massachusetts Ploughman* the method he has found best to preserve the crop during winter. He digs a trench in a location where the snow will bank up, under a cliff if possible. In this trench, which is 6 or 8 inches deep, and wide enough for 3 rows, he sets the cabbages as closely together as possible, first removing all but the last layer of leaves from the head. He then covers the head with 6 or 8 inches of earth. If more

than one trench is dug, the earth from one trench serves to cover the cabbages in the next. Bank earth up around the heads and tread close. The trench is left thus until the earth upon the cabbages is frozen nearly through to them, then 4 or 5 inches of litter or 3 inches of sea-weed is put over the earth. A drain should be dug around the trenches to carry off the water.

Is 10 Acres Enough?—"Pluma," of Trumbull Co. O., with wife and two children, has located himself on 10 acres of land. It is a stiff clay loam, half of it so wet as never to have been plowed. He keeps one cow, earns at his trade $1,75 to $2,25 per day, and asks if it will pay for him to devote his whole time to the soil? We believe it will, if he makes his work *tell*. To do this he must love it; he must make close calculations, and carry out his plans, and be able to show something for every hour's work. At first it will not pay, but finally it will, better and better. Make all the manure possible in winter with one or two cows and pigs. Plow pretty deep this fall and put in some manure, or lime. Use this for green fodder crops and roots next year. Plow in the spring for corn, both for grain and for fodder and soiling. Either keep the manure under cover, or in well made compost heaps. Very likely much work might be done by a man hired at less than $2,25 per day.

"Is Farming a Profession?"—"G. A. K.", Whitebear Lake, Wis. The employments of men which require a considerable degree of intelligence, are classified as arts, trades, and professions. *Arts* are *polite* or *liberal* (including letters, poetry, music, painting, sculpture, etc.); *mechanical*, (including all the common trades, housebuilding, stonecutting, shoemaking, printing, weaving, etc.); and *useful*, (including agriculture, fishing, trapping, lumbering, mining, etc., as well as the occupations of the seaman and the soldier.)—A profession is a business, essentially not mechanical, but requiring studious preparation, in distinction from service as an apprentice, (such as chemistry, engineering, navigation, arms, finance, government, politics, etc.). The "three learned professions," so-called, are Law, Medicine, and Theology. The distinction of *learned* is not merited nor real. Agriculture may be, and is properly a profession, if *study* enough has been given to it; otherwise it is a useful art. The difference is the same as exists between the business of the navigator and of the ordinary seaman, or that of the officer and the common soldier.

Lady Exhibitors at Fairs.—At the recent New York State Fair two very fine collections of flowers were exhibited by ladies who were present, and able to "talk flowers" with any one interested in such matters. Mrs. J. T. Van Namee, of Pittston, Pa., a most enthusiastic amateur, who cares for her plants with her own hands, brought her flowers and her neighbor Newcomb's over three hundred miles; the two had over 1000 varieties. Mrs. Lamb, of Fulton, N. Y., made also a very fine exhibition. We hope to see their example followed.

Peat.—The high price of coal has led people to look about for some substitute. One of the most available is peat, of which there are large deposits in many parts of the country. Specimens merely cut into blocks and dried, were exhibited at the State Fair, and we saw piles of it in several places in Rochester, indicating a disposition to make a trial of it. Of course peat for fuel must be dried before freezing weather, or it will crumble. Whoever contrives a plan for compressing it cheaply will do a very good thing for the entire country.

Grape Notes and Queries.—So numerous have been the specimens of fruit submitted to us, that although we have quite a long article on page 315, several recent specimens must be noticed in the "Basket."... *Union Village.*—Very few people have seen this thoroughly ripened, and consequently have no idea of how good a grape it can be. Doct. J. B. Chapin, has sent us specimens from his place near Providence, R. I., showing that with him it is much better than is generally supposed. Its large size, great beauty, and fair quality, make it valuable as one of a small collection... *Flora.*—This little known grape is sent by A. M. Spangler, Esq., of Philadelphia, who states that the specimens were the last on the vines, and inferior in bunch and berry. It is a medium sized purple grape, and its freedom from pulp, its small seeds, and great sweetness, make it a variety of great promise. We hope to see a better sample. The season has been so favorable that some foreign varieties have ripened out of doors. We have upon our Exhibition Tables, some bunches of Golden Hamburgh, ripened in the open air by Mr. John Eggert, of Brooklyn, L. I... Mr. G. H. Hite, of Morrisania, N. Y., shows some Chasselas, which are said to be from a seedling, and which has ripened for 12 years in open culture. We saw the vine on Mr. Hite's grounds, and it seemed perfectly healthy and very fruitful. ..We have seen the Zinfindel ripening finely this season on the grounds of Mr. Buchanan, at Astoria ... *Adirondac.* Excellent specimens of this grape have been received from Mr. Bailey, and we have seen high commendations of it from persons who have fruited it this year in other places. Will those who have fruited it send us their experience, as we shall be glad to put this grape on the list for general cultivation, as soon as we have sufficient evidence to warrant us in doing so...Grapes sent for names by W. C. Masters, Somerset Co., Ind., had all dropped from the bunches and hardly to be recognized. There was no Concord among them, but one may be a Diana. Grapes should be packed in cotton if sent by mail.... Specimens from Conrad Scheckler, (no State.) No. 1, Concord. No. 2, York Madeira, and the others were Creveling. Some who have sent fruit have been answered by mail; many other specimens were not of sufficiently good quality to be noticed in our limited space.

Insects to be Named.—E. Downs, New Haven Co., Conn. The very remarkable insect is closely related to the *Limacodes*, figured on page 286 (Oct.)

It has a beautiful green coat,—like a pea-green military saddle-cloth, with a white edging,—and a reddish, brown oval patch bordered with white, in the centre. It has horns at both ends, clothed with stinging hairs. The insect is found on a great variety of plants, and is called *Empretia stimulea* by Dr. B. Clemens, of Easton, Pa. It unfortunately escaped, or we should have figured it. The *Limacodes*, above alluded to, we are kindly informed by Mr. F. G. Sanborn, of the Agricultural Department of Massachusetts, is the *L. pithecium* We could not make it out satisfactorily from the figure given in Harris' Insects. Some one, whose name has been mislaid, has sent the nest of the Sack-bearer, also called Basket-worm and Drop-worm. The species cannot be told without the perfect insect, or moth. It probably belongs to the genus *Oiketicus*, or may be *Psyche*. The caterpillars build a nest or bag, which they cover with bits of sticks, and sometimes with thorns. This they carry about with them as they travel in search of food. When about to undergo transformation the insect fastens its sack to a twig, stops up the holes, and in case of the male in due time comes out as a moth, but the female does not leave the case; she lays her eggs and dies there. They are found upon the larch, arborvitæ, maple, etc., and we have seen them in abundance on the tamarisk and other shrubs. They are destructive, but are easily disposed of by picking off the nests after the leaves fall. The engraving shows a nest of natural size fastened to a twig.

Canker Worms.—J. W. Manning writes that the wingless moths can be effectually prevented ascending, by placing finely sifted coal ashes about the base of the trees, say six to twelve inches high, as steep as they can be made to lie. The insects lose foothold in the loose ashes and roll back to the bottom. When in large numbers they cling together and cannot extricate themselves. This was first practiced in Reading, Mass., by W. F. Hartshorn, about four years ago, and was a perfect success, no canker-worm having been seen on his orchard since. The surface must be brushed over frequently to prevent its becoming compact, and if soaked with rain, renewed with dry ashes. Commence to apply ashes in November, and attend to it when the insects run, as they do in moderate weather until well into the spring.

Fall Plowing to Destroy Grubs.—"L. E. T." The effect of late plowing if it be very soon followed by severe freezing is to destroy many grubs and other insects. If they have time they will again make themselves comfortable and safe for the winter. Still the disturbance destroys many, and water settling and freezing in the furrows, no doubt kills many more.

To Destroy Barn Weevils.—Burn the barn!

Gas Lime.—H. H. Dickey, Androscoggin Co., Maine. Fresh gas lime contains sundry compounds of sulphur, sulphurous and hyposulphurous acids in very variable quantities. These are all poisonous to plants, and usually gas lime applied fresh will kill any crop. Exposed to the air it gradually loses all noxious qualities, the compounds mentioned being converted into gypsum. It may be spread upon land to be plowed, so as to lie exposed through the winter, to advantage. It may be composted with muck in its fresh state, the lumps being well broken up. It is death to vermin, and for the purpose of killing grubs and cutworms, plow it in fresh in the fall, and spread a dressing on the surface besides. For many interesting and valuable facts, see the article in the *American Agriculturist* for January, 1858, page 15.

Protection and Mulch for Plants in Winter.—E. P. Thompson, of Schuylkill Co., Pa., gives the readers of the *American Agriculturist* the following hint: "I want to suggest the superiority of corn stalks for covering strawberry beds, etc., in winter. Let any one try one square yard and he will never use anything else if this article is to be had. It gives protection and ventilation. Not a leaf is hurt by cold or sun."

Moss for Bulbs and Other Plants.—"Ignorant Mossa." The kind of moss for growing crocuses, is the *Sphagnum* or bog-moss. It grows in such cold bogs and swamps as produce cranberries. It is an article of commerce, and is to be had of gardeners and nurserymen. Any of the green mosses from roads and trees may be used on the surface of the earth in pots, but they generally will not live in the dry atmosphere of the room. The "gray moss" is not a moss at all, but a lichen. It would not hurt plants if placed around them.

Thorn Seeds.—T. G. Hall and others. Our principal seedsmen have seed of the English White Thorn, or Hawthorn. Send to any of those who advertise with us. The seeds are imported, usually genuine.

White Willows.—Several inquirers who send specimens of willow twigs, are informed that the differences between some of the varieties and species are so slight, and the shape and size of the leaves and color of the bark differ so according to the exposure and soil, that no one can pronounce with accuracy on the specimens sent. The only way to get any plants true to name is to buy of responsible and well known dealers—whose reputation for honesty is part of their capital.

Propagation of Honeysuckles.—"Progress," York Co., Me. This is done by cuttings set in the open ground in autumn, or by layers made at the same time. It is well to give them a covering of litter.

Value of the Blackberry Crop.—An exchange relates that during the blackberry season the inhabitants in the neighborhood of Winsted, Conn., gathered some eighty bushels of fruit to be preserved, dried, and made into wine, syrup, etc., for the soldiers. After this was done, Mr. Gail Borden advertised to pay eight cents per quart for all which might be brought. Within ten days he received 535½ bushels! costing $1358.90. They were worked up into jelly by Mr. Borden's process, and are now no doubt most of them in the army. This amount was almost clear gain, as the berries were wild. Another season, no doubt, they will be found worth the picking in other localities.

Many Pears on a Stem.—A friend has shown us a photograph of pears exhibited at a Sanitary Fair in San Francisco, Cal. There were 50 pears on a bunch, 8 inches long, and the whole weighed 19 pounds.

An Apple-butter Stirrer.—L. P. Riley, of Ohio, recommends those who are troubled by the burning of their apple butter to use a stirrer made as in the figure. It is a paddle made of plank, with three holes near the bottom. Corn husks are drawn through these holes, bent down over the edge of the paddle, tied there, then cut off so as to leave a projection about 2 inches long. Any convenient handle may be attached. He says that the husks will keep the bottom of a badly dented kettle clean, and prevent burning.

Making Good Cider.—Wm. D. Garrison, of Union County, N. J., sends to the *American Agriculturist* his process of making cider, by which he says he obtains an article that sells for 25 to 30 cents per gallon, when that made in the common way brings only 6 to 12 cents, in the same market. We have only room for an epitome of his statements. Good sound apples, free from leaves, stems, sticks and dirt, are kept as long as possible in bins under cover, in layers not over two feet deep. The moment the least decay appears, they are ground as fine as possible without crushing the seeds. The pulp is put in the press as fast as ground, and the screws applied as soon as there is pulp enough. The cider flows through fine wire cloth, and is poured

through flannel into the cask, and bunged tightly and put into the cellar. After two or three days, the bung is started, and two or three weeks after, the clear liquid is drawn off, leaving a gallon or more with the dregs, which is used for making vinegar. It is passed through flannel into clean casks, bunged up, and left until wanted for market or use, when it is again racked off. The press and casks, indeed every thing used, are made as clean as water can purify them; the press being covered with fresh lime, which is thoroughly washed off. This may seem a good deal of trouble, but a double or triple price for the cider well pays for all that. With such care, no wonder "New Jersey cider" is so readily sold for imported "champagne," after being put into bottles with the foreign labels.

Plants for Names.—"Van," Bristol, Ind. The berries sent are those of the *Smilax herbacea*, or Carrion-flower. Its greenish flowers have a fetid odor like that of decaying meat. It is a worthless climber.... A. H. C., Rutland, Mich. No. 1, is *Linaria vulgaris*, Toad Flax, sometimes called Butter and Eggs, and Ramstead-weed. It is a regular nuisance and should not be tolerated. No. 2, is the Closed Gentian, *Gentiana Andrewsii*....M. R. Allen, York Co., Me., sends *Linaria vulgaris*, noticed above, and *Krigia Virginica*, sometimes called Dwarf Dandelion....J. Balsiger, Madison Co., Ill. The leaves are all of species and varieties of *Crataegus* or Thorn, but we would not undertake to determine them from single leaves. They will answer for hedges....P. A. T., Shaker Village, N. H. The twigs are those of the Red Cedar, *Juniperus Virginiana*. It makes a good hedge or screen, but is of slow growth. It is propagated from seeds, which lie in the ground one, and sometimes two years before germinating....E. A. F., Fillmore Co., Minn. The specimen is *Euphorbia marginata*, a Spurge from Texas and the Southwest, the white-margined upper leaves of which make it very showy....K. Schaum, Balt., Md. The plants are apparently those of the Rue Anemone, *Thalictrum Anemonoides*....E. S. Holmes, Niagara Co., N. Y. Apparently *Lycopus Europaeus*, Water-hoarhound or Bugle-weed. ....Will those who expect us to determine plants take pains to send us well pressed specimens. Our time is too valuable to spend in making out botanical puzzles.

Ceratochloa breviaristata.—"Inquirer," Orange Co., N. Y., wishes to know about this grass. The genus *Ceratochloa* is now united with *Bromus*. The species in question grows on the Pacific coast. It is not well enough known to have a common name, and we cannot tell where to get the seed. It is much like the "Rescue Grass" noticed a few months ago, and is probably, like most of its relatives, of little value.

Double Flowers Degenerating.—E. Gaylord, Floyd Co., Iowa. Always select seed from the most perfect flowers and give them a good soil.

Castor Oil Beans.—E. Wheeler. The manufacture of oil cannot be prosecuted on a small scale. The bean is a pretty sure crop in the Middle States, where there are factories for pressing the seeds. Mr. W. says that the beans drove away the moles. Will he state how he used them.

Early Peaches.—B. C. Bradley, New-Haven Co., Conn. Hall's Early is probably the earliest peach. Large Early York, Coolidge's Favorite, Crawford's Early, and Grosse Mignonne, are other good early sorts.

Large Pears.—Mr. F. L. Dubois, Brooklyn, L. I., recently exhibited at the office of the *Agriculturist* twenty Duchess pears, which together weighed 19 lbs.

Onondaga or Swan's Orange Pear.—A gentleman who has tested many varieties of Pears in Northern Illinois, writes to the *Agriculturist*, that this is one of the best in that region for October. The tree is hardy and early-bearing, and the fruit is large, and usually perfect. It is said to have originated in Connecticut; but took its name from Mr. *Swan*, who brought it to notice in *Onondaga* County, New York. At the East it is a variable fruit, but is very good when it does well.

The Greeley Prizes.—A few weeks ago the Hon. Horace Greeley offered a premium of one hundred dollars each for the best bushel of apples, and of pears, and the best six pounds of grapes, all to be of the best quality in every respect for general culture. The premiums were to be awarded at the late horticultural exhibition of the American Institute, but so little notice was given that, though the prize for grapes was awarded to the Iona, it was withdrawn and all three premiums thrown open for more general competition. The Fruit Committee of the American Institute will meet at the rooms in the Cooper Institute, in this city, on the first Tuesdays of November, December, January and February next, to examine fruit, which should be at the rooms before 2 o'clock P. M., on the days named. The fruit must be presented in the quantities mentioned above.

Removing Grape Vines.—Harriet B. Newell, Essex Co., N. Y. As a general thing autumn is the best time to plant vines, unless in a cold locality or in a very heavy soil, when the early spring is better.

Grapes and Thorns.—E. Gaylord, Floyd Co., Wis. We have seen only a few experiments with the pear on the thorn, and those were not sufficiently successful to allow us to recommend the practice. The wild grape answers fairly as a stock for the better kinds of grape. The Delaware is perfectly hardy in Iowa.

Insects on Strawberries.—B. Stearns. The caterpillar is known here, but as the perfect state (moth or butterfly) is not known, it can not be identified.

Preparing Chicory.—Mrs. J. T. Ames, Rice Co., Minn., and others. Dig the root in autumn after the leaves are killed, or in spring before they start, slice, wash, and dry. For use, brown the same as coffee.

Linseed—Flaxseed.—W. Waring, Cecil Co., Md., and others. These are one and the same thing.

Didn't Know Squashes.—A correspondent writes that having raised a fine lot of Hubbards, she gave some seeds to a neighbor. In autumn she asked him how he liked the variety. He replied, "More'n half the plaguey things kind o' ran out into hard shells; why, I had to cut them up with an axe before the cattle would eat 'em; the rest were middling." He had fed out his ripe squashes and eaten the green ones. Happy cattle: unfortunate man!

Culture of Pea-nuts or Ground-nuts.—An article on raising these, from some experienced cultivator, would be very acceptable to many.

Bean for a Name.—S. B. H., York, Pa. The bean is not recognized from the drawing and description; may be a new valuable variety, from the account.

Sweet Potatoes—Great Yield.—Mr. J. C. Thompson, of Staten Island, planted 15 rows of potatoes 107 feet long, and occupying a space 48 feet wide, being a little more than 3 feet apart. One of the middle rows was dug and the contents measured, the product being full 4 bushels, which makes the yield equal to 510 bushels per acre. One of the editors of the *Agriculturist*, one of the Tribune staff and the City Surveyor of Brooklyn, were present and did the measuring. It seemed perfectly fair and correct. All the crop was measured, perhaps 1-5th part would not have been considered marketable.—In planting, the ground was manured and two furrows turned together over the manure, leaving the width of one furrow undisturbed below the ridge, and upon this the sets were planted. The work was, we presume, done with a spade or spading fork, as this was in Mr. T's garden.

Green Tomato Sauce.—Miss H. Garlock, Otsego Co. N. Y., writes to the *American Agriculturist* that good preserves may be made from green tomatoes, thus: Pierce them in several places with a fork, pour boiling water upon them and let them stand an hour. Then drain and place them in the preserving kettle, with layers of sugar and of slices of lemon between the fruit, allowing 2 lbs sugar and 1 lemon to each 3 lbs of tomatoes. The amount of sugar and lemon may be varied to suit the taste. A little water will be needed with the bottom layer of sugar to prevent scorching. Cook the whole slowly for three hours.

Strawberry Planting—Spring vs. Autumn.—The N. W. *Christian Advocate*, of Chicago, after pleasantly referring to our immense distribution of strawberry plants, says: "By such means this celebrated strawberry ought to be more generally and rapidly diffused than any new plant ever was before. We cannot, however, forbear expressing our regrets that this distribution could not have taken place in the spring rather than fall, since from actual experiment we have reason to fear that the greater share of the plants will be lost by fall transplanting."—*Our* experience has been the reverse; we have previously distributed 50,000 to 60,000 other strawberry plants, at all seasons, up to Nov. 15, and heard of few losses at any time—the fewest in autumn. Our 1½ acres of the "Agriculturist" variety, just distributed, were set last year from October 5 to Nov. 20, and not a single plant died; *every one* of them can be seen growing with a heavy, stocky crown. Of less hardy sorts, such small plants as are usually sold, may not do well; but large plants of hardy varieties, we prefer to have set in autumn, if they can become at all established in the soil, as they are then ready to start at once into growth, at the first opening of spring. A light covering of straw or refuse hay should protect them from sudden changes of heat and cold.

Keeping Cheeses in Winter.—"Novice," wishes to learn through the *Agriculturist*, the experience of dairy folks in keeping cheeses through the winter without the usual frequent turning and greasing. Has tried packing in straw and in oats, but they molded.

Italian Bees.—"D. N. W.," La Salle Co., Ill. You magnify the robbing propensity of these bees. It is not such that honest men can not keep them. Take this view, rather:—they are so thrifty and industrious that they are more likely than other bees to find out and take any honey that is not well guarded.

Tripe—How to Prepare it.—"Hartford Co., Conn." Tripe is the large stomach of the beef taken fresh, washed thoroughly, soaked in milk of lime made by slaking quick-lime to a creamy consistence. After soaking a few hours, or over night, it is scraped, when all the inner dark colored skin is removed. It is then washed thoroughly, and boiled until quite tender, in which condition it is marketed; or it is packed with salt and spices, or simply salted. We should be glad to hear from any of our readers who practice other methods.

9,125,000,000 Matches!—"Young Mathematician" writes to the *American Agriculturist*: "If twenty-five million people each use one match a day, it amounts to over nine billions, or nine thousand millions a year! A second of time saved in using each of these, amounts to nearly 300 years, or nearly 700 years at ten hours a day. If manufacturers would put the phosphorus end *down* in the boxes instead of *up*, it would save these seconds to the users, in not having to change the end of each match, after lifting it from the box." [Yes, and the matches would keep safer and cleaner if not exposed at the top, when kept in upright boxes, and it would also save the phosphorus odor left upon the fingers in handling. We usually invert all the matches when first opening a new box. The pleasantest matches are those having the wood dipped in paraffine, or in wax, instead of in sulphur; but they do not "catch" when used in a draft of air as well as sulphur matches. A visible but not thick coat of sulphur, half an inch up the wood, and no more, is desirable; less does not heat the wood enough to light it well; more gives off too much sulphurous fumes.—[ED. *American Agriculturist.*]

Directions for making Sweet Pickles.—Sweet pickles properly prepared are an excellent relish with almost any meal. The writer esteems them greatly preferable to old style preserves, though not equal to nicely canned fruit. The following directions for pickling are furnished to the *American Agriculturist* by an experienced housekeeper. For pears and plums: To 7 lbs. of fruit, take 3 lbs. brown sugar, 1 quart vinegar, 4 oz. cinnamon, 2 oz. cloves. Pears are to be peeled and boiled, though some cook without paring, as they keep their form better. Cook until soft enough for a straw to be passed through them easily; let them cool, stick two or three cloves in each, and place them in a jar. Boil the vinegar, spices and sugar 15 to 20 minutes, and pour hot over the fruit. Repeat boiling with the same liquor three mornings in succession ....Plums are to be treated in the same manner, except that they need no cooking, but are placed in the jar at once....Sweet apples should be pared and steamed until soft, and then treated as directed for pears: if very sweet, they will not need as much sugar....Peaches are to be nicely wiped, a few cloves stuck into each, then placed in a jar, with spices according to taste scattered among them, and covered with cold vinegar.

Cancers Incurable.—To J. P. M. (and others.) If your friend has a genuine cancer, there is no hope of her permanent cure. So say the most eminent physicians. Cutting out *may* sometimes check its growth for a season; but this should only be done by an accomplished Surgeon. The hundreds of thousands, I not millions of dollars paid for cancer-curing medicines, and to "Cancer Doctors," have been thrown away—often worse. All the cases "cured" by them were something else, which would have got well without their aid: while the cutting of the self-styled "Cancer Doctor" has often resulted in death or disfigurement. We have perhaps given our own experience before, but it will bear repeating. Many years ago, while a student, we met one of the most noted "Cancer Doctors" of the country,

who had patients from all parts of the Union. He at once discovered a red spot on the bridge of our nose, probably caused by the disruption of a small artery, and instantly pronounced it a cancer! He urged the importance of its immediate removal, as the only means of saving life. He "would take it out for $50, as he charged professional men and students only one-tenth to one-fourth price." We considered the matter a while; the red spot disappeared of itself; we saved our money, and an ugly scar, and the "Doctor" lost one case from his long published list of "wonderful, marvelous cures."

Treatment of Stammering.—Several inquirers: The appliances for the cure of stammering advertised in our columns, consist of several ingenious mechanical arrangements, which appear to be founded on correct principles. The proprietors do not claim to cure all cases, but some forms of the habit may be broken up, by their use. The parties are doing a legitimate business entirely distinct from quack medicines, and no injury can result from their method, even though a cure be not effected. Of course we could not decide on their applicability to individuals without knowing each case.

Sending Articles to Soldiers.—R. Wood, Bradford Co., Pa, and others. We cannot undertake to forward packages of supplies, as it can be done much better by the societies organized for the purpose. If there is no Soldiers' Aid Society in the neighborhood, send to the Sanitary Commission at New-York, Philadelphia, Baltimore, Washington, or any other large city.

Post Office Money Orders.—We are glad to learn directly from official sources, that the new money order system is making slow but sure progress. One hundred and forty-seven offices are being used at first, as a trial, to asertain defects, and any improvements that may be made. We hope within a year to see the system extended to every town in the country. It will be of immense benefit to publishers, and especially to subscribers to periodicals—and that will include almost every family in the Northern States. To send under $30 to a distant point, it will only be necessary to hand the funds to the home Post Office, and send the receipt, or "money order," to the person to whom the money is to be paid, and he will collect it at his own Post Office. The cost will be but a trifle—from 10 to 20 cents, according to the amount. Losses by theft, by destruction of mails, etc., will thereafter cease. We can testify to the benefit of this system, from having examined the similar one in operation in Great Britain.

Poetry and Essays.—Many poetical contributions, a few of them possessing considerable merit are received from time to time, but not published, for the following sufficient reasons. 1st, The scope of this journal is practical, rather than literary, and enough practical matter is always at hand to fill its pages. 2d, It is inconvenient to translate such effusions for the German edition.—Nor can valuable space be devoted to long essays about agriculture and its kindred topics. It is a waste of ink to expatiate upon the dignity, the healthfulness, or desirableness of a farmer's life, etc., etc. But whoever can tell how to raise better produce or more of it, or how to do it easier, or can communicate interesting facts either of success or failure, and thus add to the general knowledge, will be a welcome contributor.

Humbugs.—Look out for the circulars which Joseph T. Innmann, addresses to young men. It is the old dodge. He sends a prescription made up of names which are unknown in medicine and botany, and which are a little worse imitations than these bogus names usually are. He has, of course, once been a Missionary somewhere, and brought home a lot of the stuff which he, benevolent man, sells at just what it costs him. Three certificates accompany the circular, from "M. D's" dated at London, Paris, and New-York, respectively. The New-York "M. D." is not found in the directory, and probably all three are names as false as those of the ingredients of the medicine. His letters are to be addressed to "Station D, Bible House," which of course helps out the sanctimonious look of the thing.

A New York Humbug.—Passing along one of our city thoroughfares a few days since, we heard a great racket in a large store, made by pounding a piano, and six clerks shouting at the top of their voices, "This way and secure your tickets! Can't tell what you'll get, till you pay your money." Tickets at one dollar each were being sold for a "Magnificent Gift Concert," entitling the bearer to (perhaps) 25 cents worth of music, and whatever he might "draw" from a large box of envelopes containing cards, on which were names of the "gifts." During the ten minutes we looked on, thirty or forty tickets and as many people were "sold." The "gifts" were mostly of the cheap jewelry order—rings, pins, bracelets, etc., glittering and *gilty*, worth from ten to fifteen cents, or less, with occasionally a silver-plated article costing perhaps thirty cents or less at wholesale. As these or similar operators may start a like game in other localities, those who read the *American Agriculturist* will be on the lookout for them here and elsewhere.

Look out for Lottery Schemes.—These are still being sown broadcast over the country, judging from the piles of them received by subscribers to the *Agriculturist*, and by them forwarded to this office. No matter in what guise they come, whether signed by Hammet & Co., Egerton & Brother, Taylor & Co., or any other man, do not let your good manners be corrupted by these evil communications, as they may he if ten dollars be invested and you get mad upon discovering the humbug. Look out for a new swindle called "The Farmer's and Mechanic's Protective Union," with a long list of bogus officers, and a tempting list of cash prizes, followed by the usual letter—"Your ticket has drawn a prize of $200," as described on page 263 (Sept. No.)

A Photograph Humbug.—Copies of the following letter are being extensively circulated about the country. "Dear Sir,—There is a package of photographs at my office directed to your address. The charges upon it are $1, on receipt of which it will be forwarded to you." These are signed by several parties. Persons receiving such a note might suppose a friend, perhaps in the army, had sent a present of pictures. Instead of this, it is only a device of the letter writers, to sell a few common photograph cards at a large price. Disappointment, even at a dollar a package, is too dear.

About Whiskers, etc.—A correspondent of the *American Agriculturist* inquires if the advertised preparations to "force the beard to grow" are worth anything. Yes—they serve an excellent purpose for making money out of anxious young men, desirous of blossoming before their time—possibly they will also help develop the eye teeth, as a man once humbugged with such quack nostrums, will then be likely to avoid them.

The Fruit-Growers' Society of Eastern Pennsylvania held a series of meetings at Easton, during the State Fair, some of which we had the pleasure of attending. Amateurs and professional fruit-growers work together here earnestly and harmoniously, and great good will be effected. Several new fruits were brought to the notice of the Society, and old ones were discussed. Rev. James Colder, of Harrisburgh, was elected President for the ensuing year—an excellent choice. The discussions and proceedings of the Society at this session cannot now be discussed for lack of space, but will be hereafter referred to in sundry fruit items.

Agricultural Books Scarce.—The old Agricultural Book firm of C. M. Saxton & Co., has closed up its publishing business. In order to keep this class of books together, and secure enough for our own list, (page 326,) we purchased all the remaining stock of the firm; and so long as these last, will supply individuals and the trade. Several of the books are nearly, or entirely out of print, and cannot be had until other arrangements are made, for re-publishing them. Mr. C. M. Saxton goes to St. Louis, to act as agent for Bradbury's Pianos, Mason & Hamlin's Cabinet Organs, Brown's Baby Tender, etc. He will also receive subscriptions for the *American Agriculturist*, in that city. We wish him abundant success in his new home in the West, or rather, in the soon to be central city of the Union.

"The Foundations of History, A Series of First things," is the title of a book announced in our advertising columns, which we have not yet had time to read through. A judicious friend to whom we submitted it, says it is well worth perusal. The advertisement fully explains its character and objects. Mr. Schieffelin, the author, is the senior partner in the firm of Schieffelin Brothers & Co., the largest dealers in drugs and medicines in this country. Our wonder is that he could have found time from business to prepare a work requiring so much reading, investigation and thought.

Would Not Let Him Go.—Through the over-politeness of the enrolling officer, and the courtesy of the blind man at the "draft" wheel, the Proprietor of the *Agriculturist*, though a legal exempt, received an urgent invitation to take another trip down South—this time at the expense of Uncle Samuel, instead of at his own charges. But on presenting himself at the rendezvous, Oct. 11, the Surgeon promptly ordered him home again.—He sends his compliments and best wishes to his fellow-soldiers, from whom he has thus been "arbitrarily" separated, and in whose glory and patriotic efforts in behalf of our country, he is not permitted to share. Well if not allowed *in* the army, nothing but lack of health can prevent one from getting so near the battle field as the Sanitary and Christian Commission's Agents are allowed to go. If rebels can not be destroyed there, many wounded soldiers, both friend and foe, can be *saved*.

Brown's Baby Tenders.—We have one of these under trial. So far, it has given a great deal of satisfactory amusement to the little ones, and is worthy the attention of mothers.

Veterinary.—Joseph Bilbie, Maries Co., Mo. —Have referred your letter to a veterinary surgeon. Meanwhile, sponge out the mare's nostrils once or twice a day, and if you can, wash out with a syringe. The accumulation of food, hay seeds and dirt in her nose, which becomes so offensive after a few days must be cleaned out frequently, or she will be seriously sick.

Sale of Short-horn Stock.—A favorable opportunity to secure valuable animals of unquestionable purity will be offered at the sale noticed in our advertising columns. A feasible method for securing improvement in the herds of a neighborhood is for several to unite in buying a blooded bull, where no *one* has sufficient means at command to secure a desired animal.

Mailing Plants to Utah, Colorado, Idaho, etc.—There is trouble on the overland route. Owing to some imposition by parties sending merchandise by mail, the Department refuses to forward even newspapers, except in single wrappers to individual subscribers, and rejects all other mail matter, not prepaid with letter postage. This is contrary to the plain letter of the law, which makes no exceptions against plants and seeds, sent any where in the States and Territories, at 2 cents per 4 ounces. We have therefore been compelled to hold back a large lot of our strawberry plants, via the overland route, for subscribers in the Territories west of Kansas, for which labels were all ready in September. If we cannot get a permit to mail them in spring, some arrangement for expressing them must be made.

The Strawberry Plants Sold—with a Reservation for Subscribers.

After pretty thoroughly gleaning the large well-grown plants from our "Agriculturist Strawberry" plot, (1¼ acres,) to supply subscribers, and selling a few to dealers and others, the very favorable damp, warm weather produced a fine growth of new plants; and these have come forward so rapidly that a considerable supply of excellent plants can be furnished in the Spring. From these we ought to realize a handsome sum to meet the thousands of dollars expended upon them—an expense we should not have regarded, but for the enormous advance in paper, etc., since the plants were offered to our readers, and the subscriptions received for this year. But we dislike to be engaged in any business transaction that might in the least interfere with our editorial duties and independence. We therefore promptly accepted an offer from Rev. J. Knox, of Pittsburgh, Pa., for all our surplus plants, after reserving 40,000 plants for our readers. These will be used in part to fill up any positive, well-authenticated failures among those plants already sent out, where the fault was not the recipient's; and the rest will be given out to those now subscribing for next year who furnish five cents extra to cover expense of packing and postage, *if the application be made at the time of subscribing*. When desired, the plants will be supplied this month, if the ground be not frozen before the application is received. But except when specially wanted now, the plants will be reserved and sent out at the earliest practicable day in the opening of Spring. The rule will be, first come, first served. Those applying after the 40,000 are exhausted, will need to wait until the growth of new plants next Autumn, when all previous applications unfulfilled will be met. Mr. Knox, to whom all applications for *purchasing* plants should be directed, will be able to supply a fine lot to dealers and others, at the rates previously announced, (1 plant for 75 cents; 2 for $1 20; 6 for $3; 12 for $5; 100 for 25; 1,000 for $200; with the usual discount to the trade, we suppose. Applications to him will be filled by his agent here until he moves the stock to his grounds at Pittsburgh, in Spring. The purchase of the plants by Mr. Knox is an additional proof of their value. He is the largest grower of small fruits, (strawberries, grapes, raspberries, etc.,) in the country, and means to be ahead in any new enterprise in this line. Those who are continually offering us new berry fruits for propagation, distribution, or sale, will do well to call on him instead. It will be remembered that after visiting his grounds at Pittsburg, we took the liberty to call him the "Strawberry King of America," if not of the world, and he has now what appears to be the Queen among strawberries.

A PRIMITIVE RESIDENCE.—*Engraved for the American Agriculturist*

The Western Settler and his Architecture.

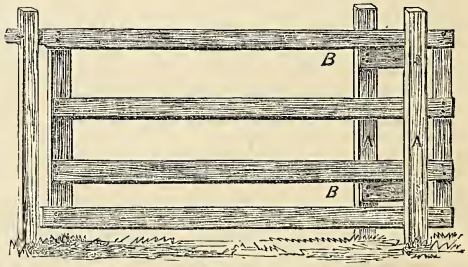
Settlers in well wooded districts have at hand one of the most durable and excellent materials of which dwellings can be made—namely, logs. Our engraving represents one of the rude but comfortable habitations of the pioneer. He had not to haul the logs of which it is made, half a dozen rods from where they grew. We associate nothing of grace or architectural elegance with the log-house, yet it is capable of exhibiting a very high order of practical beauty. The beauty of *fitness* is the highest kind of beauty in architecture. It has often been a matter of surprise, not only that stiff, angular brick and frame houses will start up even in the edge of the forest, but also, that logs have been so little, if ever used for gardeners' cottages, porters' lodges, and farm houses, on pretentious estates.

We have a sort of national pride in the log-cabin, as an American Institution, and can testify abundantly to the comfort, in winter and summer, of well built and convenient log-houses. We certainly do not advocate small rooms, low ceilings, earth floors, (or "dirt floors" as some are appropriately called,) small windows, bark roofs, and other such things, which are too often the prominent features in log-cabins. There is nothing to prevent, in fact every thing to recommend, airiness, breadth and even fine finish being conspicuous in houses built of logs. A good wood cutter will leave the ends of the logs cut beautifully true with his axe alone; and if pains enough be taken to have the ends even, the logs of uniform size, decreasing in diameter very gradually toward the eaves, and the corners true and finished off in a workmanlike manner, not with sawing and planing, but with the axe alone, the effect is very neat and handsome. The openings for windows and doors if finished in the same manner as the corners—that is with short, round pieces, notched and inserted crosswise between the ends of the logs—are an ornamental feature. Eaves and gable ends of the roofs ought to project several feet,—the more the better for picturesque effect, and where picturesqueness is a prime object, the roof should be thatched. It is easy for any one with a little architectural taste to plan window caps and door protections, or porticos of a substantial character appropriate to the building. The addition of a broad piazza, or even a roof simply, will increase both the comeliness and the comfort. It is a great folly to imitate in wood, building styles adapted to stone or brick, and this material presents to the sensible enterprising architect qualities upon which might be based a very beautiful and unique style of American cottage architecture, not to be excelled by the Swiss, or any other.

Block Houses, made of logs neatly hewn to uniform thickness, make fine substantial buildings, scarcely to be excelled in comfort and solidity. They may be clap-boarded on the outside, and plastered within, if convenient, though this is not necessary to their warmth. The clap-boards renewed as needed, will render such houses almost as lasting as those of bricks.

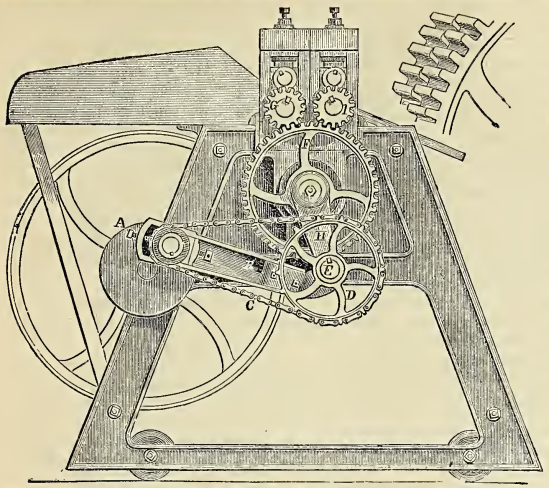
Propagating Osage Orange, in the Absence of Southern Seed.

In many localities the Osage Orange is the popular hedge plant, and the shutting off of the southern supply of seed has led to many queries addressed to the *American Agriculturist*, which we will answer in a lump.—1st. Northern raised seed will grow. We have examined seeds from several "oranges" produced around New-York, and found them mainly perfect. Several correspondents write that they have plants from northern seed, and that it is worth while to collect the fruit wherever found upon a neglected hedge. Mr. D. Fitzpatrick, of Iowa, says he lays the fruit where it will be thoroughly *frozen* during winter, then mashes the pulp and separates the seeds in spring. In many parts of the country the seed may be collected, especially where the Osage Orange is grown as a tree, which by the way, it ought to be much more than it is, for it is a very ornamental plant.—2d. The plant may be grown from cuttings in the same manner as the quince. Make cuttings from six inches to a foot long, in autumn; bury them in sand in the cellar, and plant out in spring. See page 49, (Feb.) of current volume.—3rd. It may be propagated from root cuttings. The following plan is recommended by Dr. Low, of Missouri: In the spring, just as the buds start, plow 2½ or 3 feet from an old hedge, turning the furrow toward the hedge. This will cut the roots, and those portions left in the undisturbed ground will throw up shoots. Some one has written us that he raised plants by setting out pieces of the root; will he please give the full particulars?



A New Gate Plan—Worth Trying.

G. W. Taylor, of Ogle Co., Ill. sends to the *American Agriculturist* the above sketch, of which he says: "It is a very handy gate. Any farmer can make it, and I find it cheaper for a field gate, and handier than any other I am acquainted with." The frame is simple; one end hangs between two posts (*A. A.*) set a foot apart and enough out of line to admit the pieces of hard-wood plank (*B. B.*,) which support the gate so that it will slide upon them. To open the gate, it is shoved from left to right till it nearly balances, and then swung round like any other gate. Hoop iron on the rails will lessen friction.



IMPORVED SANFORD & MALLORY FLAX AND HEMP DRESSER.

The above cut is an end view of the machine. The section of gear shown at the right hand side, represents the form of the roller-gears and the central gear *F*. This form of gear obviates the back-lash and consequent liability to breakage. Another important feature consists in the substitution of a wrought-iron chain in the place of gears formerly used on the connecting-rod. By referring to the drawing, it will be seen that the chain wraps around the two gears on the present connecting-rod, engaging a large number of cogs; whereas, by the use of the ordinary gear, it is impossible to engage more than two cogs at any one time. With this new improvement, there is scarcely any danger of breakage.

Flax and Flax Machines.

At the recent State Fair, at Rochester, were two machines, each of which was constantly surrounded by admiring crowds. One of these was a Cotton Gin, engaged in separating the fibre from the seed with marvelous rapidity. Here was a wonderful illustration of the linking together of the different branches of human industry and the mutual dependence of agriculture and the mechanic arts. The Yankee genius which devised the first cotton gin made possible the profitable culture of cotton. A cotton gin at a New-York fair was very much like a growing pineapple, a curious exotic but without any practical bearing upon the agriculture of the Northern States.—Thinking of the evil as well as the good that had resulted from the invention of the cotton gin, we turned to the machinery department where the Flax Brake of Sanford & Mallory, of New York City, was in operation. This machine promises to be to the northern farmer what the cotton gin has been to the southern planter, enabling him to readily and rapidly prepare flax in a condition to be marketed. Impressed with the importance of this invention to the agriculture of the country, we have watched its progress and improvements with much interest. One of the early forms of the machine was figured in the January *Agriculturist*, of 1863, but since then improvements have been made in details of gearing, and such matters, which render the machine more efficient and durable. The straw is placed on a feed table, and passes between a series of grooved rollers, having a peculiar vibratory or back and forth motion, which so completely breaks up the strawy portion of the flax that very little is left to be removed by scutching. From what we saw of the machine in operation, from conversation with persons who have the Brake in use, and from the testimony of responsible parties, we are convinced it will do all that the Proprietors have yet claimed for it. In the first place, the machine is portable and may be worked by any ordinary horse power. In neighborhoods where there are no flax mills, this is a great advantage. A machine which can be driven by one or two horses will dress from 2,500 to 3,000 pounds of straw per day of ten hours. A person who can run a fanning-mill, or any other simple machine, can run this flax brake, and do the work for a neighborhood, or the machine can be transported from place to place in the same manner as is now practised with threshing machines. Secondly: 60 to 70 per cent. of the shive (as the strawy matter is called) is removed, which is much more than by the old methods of breaking, there is none of the fibre injured, and from five to eight pounds more of dressed flax can be obtained from a hundred pounds of straw by using this brake, than by any previous methods of dressing. The fibre comes out in flattened ribbons, as straight as it laid in the straw, and scarcely a thread of it is broken. A Committee of the N. Y. State Agricultural Society, in a report dated Sept. 18th, 1863, say: "We are of the opinion that the saving effected by dressing the flax crop of the present year, by this machine over all others with which we are acquainted, will equal, if it does not exceed one million of dollars." There is abundant testimony that flax broken on this machine loses three to five pounds less to the hundred, over the hackle, than when dressed in the ordinary way, and that the fibre is softer and better for spinning purposes. Thirdly: the machine is safe and may be operated by any one of ordinary intelligence. The serious accidents which have occurred from the use of ordinary brakes can not happen to the operator of this machine. All that he has to do is to spread the straw upon the feed table, and this can be done without any possible risk. Mr. M. F. Roberts, of Niagara County, has one of these brakes which affords his daughters employment during the winter. Two of these young ladies were present at the fair and operated the machine, showing in a striking manner that it can be worked by any intelligent person, male or female, with perfect safety.

Our remarks apply chiefly to the No. 1 machine, the size usually sold to farmers and small operators. There are smaller sizes for working by hand power, and larger ones for factories. A new machine has been built for operating on the large scale, in which the number of rollers is increased to six or eight. These are worked by a very ingenious screw motion, the last pairs of rollers being very fine.

There is also a set of three machines of twelve rollers each for the treatment of unrotted and tangled straw. Two of these machines roughdress the straw and much reduce it in bulk. The third machine takes the fibre from the first two, and so completely frees it from shive that without any scutching, it is ready for immediate use in paper making. The invention of this set of machinery renders available the great quantity of flax straw which has accumulated at the West and wherever this crop is grown for the seed alone. If machinery were now in operation to throw this otherwise wasted material into market, it would have the effect to bring down the price of printing paper materially. Although the manufacture of flax is, like all others, of slow growth, there is a ready and remunerative sale for the dressed fibre. It is now used to mix with wool, to make twine, batting, belting, druggets, stockings, felt hats and carpeting, and for numerous purposes where other fibrous materials were formerly used. Mr. Roberts, above mentioned, states that from the sale of his flax, tow and seed, for which there is a home market, his flax crop brings in a profit per acre of seventy-five to eighty-five dollars.

School Houses—New Plan Suggested.

The growth of the rising generation in knowledge, the culture of the mind, and the training of those who are soon to give tone to society, to manage the affairs of the nation, to speed or impede the cause of truth, religion and progress in right directions, are subjects which have a direct personal interest to every man. A good school in one's immediate neighborhood ought to be considered as important as to have comfortable dwellings for the inhabitants. Country

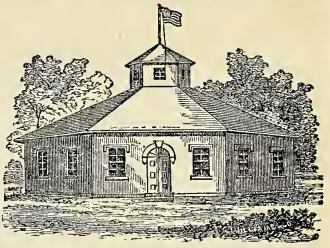


Fig. 1.—HEXAGONAL SCHOOL-HOUSE.

district school-houses are usually required to accommodate so small a number of children (20 to 60) that they are necessarily of simple construction. The points of great importance which are very often entirely neglected are, *free ventilation*, without subjecting the children to drafts of cold air, (see page 272, September *Agriculturist*,) and a *wash room*, that cleanliness of hands, faces, and clothes may be insisted upon and enforced. In villages, especially in those where there are considerable manufactories, there are frequently large numbers of children to be provided for; they are of different ages and degrees of advancement, and there is a necessity for the exercise of great economy.

We present herewith a plan for a school-house devised by the Principal of one of the large public schools of New-York City—a teacher of large experience and practical views. The building is six-sided: it is divided into six triangular compartments of equal size (numbered 1 to 6, fig. 2) surrounding a smaller hexagon in the center, having for walls double, glazed doors, which, when open, fold against the partition walls between the six main rooms. The teacher standing in the middle at 7, is in plain view of the entire school, and by turning round can see all. All of the triangular rooms may be used

for the pupils to sit and recite in, or the one into which the outside door opens, may be for wash-rooms, wardrobe, etc. This would leave five rooms for the school. The furnishing of these of course depends upon the amount of money at disposal, and the character of the scholars.

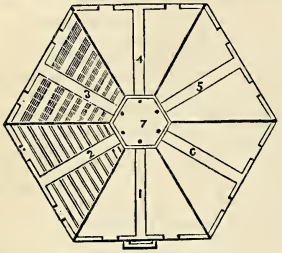


Fig. 2.—GROUND PLAN.

A convenient method, where desks are only needed for classes in writing, is to have one or more rooms only furnished with them, as shown at 3, fig. 2, while benches simply are used in other rooms, as at 2. The engravings represent one of the largest-sized school houses, capable of accommodating 400 to 450 pupils, 75 in each room, all under the eye of one teacher, assisted by monitors or under-teachers. By following the same plan, reducing the size proportionally, smaller schools may be accommodated, twenty in each room being a very proper number to be placed under the charge of one monitor.

It will be observed that the teacher's stand receives light from all directions, and may be lighted from above, besides, in case of very large houses. The light falls from two directions upon the backs of the pupils. The long blank walls are well arranged for blackboards. The space in the building is very economically occupied, everything being upon one floor. Ventilation of a very perfect character may be easily secured. The heating arrangements may be located in the cellar, and this would be by far the best way in all probability. A large school in the form of a Greek cross has just been constructed on this principle at Hampton, Va., under direction of Maj. Gen. Butler, and the above is regarded as an improvement upon that.

Hints on Thatching.

Over a large portion of this country straw is regarded as of little value, but its value will be enhanced by the increasing use of it for paper of various kinds, and by the new hay presses which bundle it so compactly that it can be transported to Eastern markets nearly as well as flour. In January we discussed the straw shelters in use at the West, and now at the season when straw is accumulating, give a few hints about thatching. In some countries thatching is a regular trade, but with care any one may do it. It makes a beautiful finish for rustic houses, porters' lodges, well-houses, bee-hive shelters, etc., and is besides the most excellent roofing for ice-houses—so the subject has interest for almost every one. For durability and imperviousness to water, and for warmth in winter and coolness in summer, a straw roof well put on is nearly all that can be desired. Its liability to take fire from sparks is by no means so great as would be supposed, especially after it has been laid a few months.—There are many ways of making a straw roof. The mud roofs of the log cabins at the South and West are not unfrequently thatched by laying light courses of straw and binding each with a layer of clay or sods upon the upper end, covered out of sight by the next course, and they look very well.

Roof frames are prepared for thatch, much as for shingles, so far as the plates, purlines, rafters and ridge poles are concerned. Upon the rafters are lashed, with well tarred rope yarn, boughs of hazel or Scotch fir in England; nothing could be better than our hemlock, and in lack of such boughs, long sedge or reeds laid horizontally would perhaps be equally good as a basis upon which to lay the straw. This is put in a heap, sprinkled and turned till it becomes uniformly moist, then drawn out in even handfuls, laid in armfuls and delivered to the man on the roof as he needs it. First, a single course is laid at one end, from eaves to ridge, the handfuls lying *horizontally*, buts out, and projecting over a little as a cornice. When a length of about 3 feet is laid, the straw being put down in even handfuls, each handful pressed close and firmly against the preceding, a strip of hooping stuff, 1 inch wide, half round, is laid on about the middle of the straw. This is tied down firmly to a rafter at several points with tarred rope yarn. An assistant standing beneath thrusts a long wooden needle up through the straw, close to a rafter; the thatcher returns it, and the cord is tied below and cut off. When the end courses are finished, the horizontal courses are commenced at the eaves, the thatcher placing his ladder on the roof so as to give himself a convenient reach. The straw is laid in handfuls as just described, with the buts down, where it covers the end course, it is not quite so thick as elsewhere. The binding strips are placed about ½ the distance from the upper ends of the straw. The second course follows the first, lapping ⅔ at least, and is bound down in the same way; and so the thatcher proceeds till the ridge-pole is reached, over which the upper course is allowed to project one half. Thus one side of the roof is done, breadth by breadth, and then the other side in the same way. When the second side is brought up to the ridge, the top course of the other side is bent down, and a course laid upon the ends. It is very important that the straw should be compressed as solidly as possible, when the strips are tied—hence the thatcher with a mallet, beats the course of straw down very solid by striking upon the strips, the attendant being ready to tie at the point of greatest compression.

There are several methods of finishing off the ridge; the simplest, and perhaps the best, is to lay a course lapping equally on both sides and held by three binding strips on each side, fastened not by tieing in the usual way, but by pins made of the same half round stuff which forms the strips, notched in the middle so that they may be bent in a U form (like a lady's hair pin). The ends are sharpened and notched by single cuts of a knife or hatchet, so that when driven into the straw they will hold. These strips, it will be seen, are exposed, hence it is a thatcher's pride to have them small and neat so as to look workman-like. Finials or end-pieces made of straw bound tight and hard, of any appropriate shape, give a picturesque finish. The corners of the roof at the eaves, and wherever the wind lifts the thatch, may be pinned down in the same way as described for the top course.

The roof when thus far done, is combed down by a tool made like a hay rake, with the head about 4 feet long,—one end being without teeth and forming a handle 18 inches long. Finally the eaves and ends are trimmed. This is done with a sharp hay-knife or a scythe blade set straight in a handle so that it can be used with a saw-like motion. The eaves are cut off evenly at right angles to the slant of the roof.

HORNLESS CATTLE.—It is the practice of some farmers, to cut off the horns of heifer calves, and sear the wound with a hot iron, to make them fitter companions for sheep. The result is, that the horns either do not grow at all, or but very slightly and irregularly. We are informed also, that cows thus made horuless, have repeatedly borne calves upon which no horns ever grew.

For the American Agriculturist.

Tim Bunker on the Sanitary Commission and the War.

MR. EDITOR.—I was astonished to hear from your note of yesterday that there had been some considerable inquiry, if not more, about my not writing for the paper so much as common. I take the first leisure day I have had in four months to tell you all about it. You see, I always had my hands full to keep up with my farming and writing, and attending to the duties of Justice of the Peace, before John went to the war. You see, the boy had got to be mighty handy about every thing, from yoking a steer, to mending a broken window or cleaning a clock. And when he turned soldier, every little thing that the boy used to do, fell back into my hands, and come to pile this on top of court duties, and war and politics, I have hardly had time to find out whether my soul was my own or not. I rather guess 'tis, however, at least enough of it to give you a bit of my mind on the topics at the head of this letter.

You see, when I last wrote, I left off in the White House, a place that many a smart man, (and some that aren't so smart) has been crazy to get into, and never fetched. When I got home Jake Frink wanted to know if I had done his errand. I told him I thought I had done it up brown, and if he didn't believe it he might see just what I said in the papers. You see, he hasn't been into our house since. That is the way with some folks; you may do your best to serve 'em, and they will treat you with the blackest ingratitude and neglect.—Somehow it hasn't been particularly lonesome at our house, though Jake hasn't called as usual. I hadn't time in my last letter to tell you about the Sanitary Commission business. You see, that was about half that took Mrs. Bunker to Washington; the other half was John, for I must own she has considerable of a woman's weakness about her. She is such a prudent sort of a woman in her own household that she can't bear to see a bit of anything wasted. Our dog was always *lean* when we kept one, for all the scraps went into the swill-pail for the pigs. Finally she thought dogs didn't pay, and as I couldn't gainsay that opinion our dog turned up missing one night. As I noticed an uncommon bleating of sheep and skipping of lambs the next time I went to salt the flock, I kind of thought they had got the news and was holding a sort of Thanksgiving. The cats caught mice and fared better. Now, you see, Mrs. Bunker thought that her notions of economy and saving ought to be carried into all public matters. She said "gather up the fragments that nothing be lost," ought to be written as a frontispiece over the door of every public building and hospital in Washington, and everywhere else. Now there

are a set of busybodies, that have nothing else to do but to find fault with the management of all public concerns, from the President's business down to the Justice's Court in Hookertown. They have sometimes criticised my judgments, though I never had an opinion reversed by a higher court since I sat upon the bench. You see, these idle folks—chaps like Jake Frink—would say "it was no sort of use to send any thing to the soldiers, for it wasn't half the time they got any thing when it was sent. A good deal of it was stolen, lots of things were smashed by the Express Companies, and the jellies and jams got jammed into the wrong stomachs." You see, these stories worried my wife just as bad as if the milk was souring in her own pantry in dog-days. They didn't worry me much, for I always noticed that the folks who grumbled most about the Sanitary stores spoiling, were the very ones who hadn't given a red cent to buy them. A precious little Jake Frink and company care about the soldiers. He never gave a dime for Sanitary stores.

Well you see, nothing would satisfy the woman, but she must go and see that nothing was wasted, and when she came to hear that John was wounded it brought matters to a focus, as Mr. Spooner would say, and we set right out for Washington. The hospitals around that city are about as thick as hay-cocks in a meadow on a summer afternoon, and it takes one near a week to see 'em all and find out all the particulars. Mrs. Bunker went into them about as thorough as if she was house-cleaning, and I guess the nurses thought the Inspector General had sent an agent to pry into things generally. She wanted to know if the things come straight, that had been sent to them by express from Hookertown, for she knew what the Sewing Society had sent, as she was one of the directresses, and packed up pretty much all herself. There were shirts and drawers, socks and blankets, cushions, ticks and sheets, pillow-cases, quilts and comfortables, and pretty much every thing that a sick man could wear or use on a bed. There were preserves in every variety, sugar, tea and coffee, candles, soap and towels, tin plates, basins and lanterns, etc., six barrels and nine boxes packed jam full. Now it so happened that the Hookertown supplies were on hand, and she had the satisfaction of seeing that every thing had come straight. All the nurses agreed that the express folks brought things very carefully, and many of them would not take any pay for the trouble. Mrs. Bunker was astonished to find every thing so neat and clean. When she went into the Columbian College Hospital and saw the doctor and his wife, and the motherly looking women that were nursing the soldiers, and the nice beds and the scrubbed floors, she declared it was equal to any thing in Connecticut housekeeping, which she thinks is about the limit of perfection. The Sunday after she got home, she looked up from the Bible where she was reading, and taking off the gold-bowed spectacles that Josiah gave her, she said, "Timothy, I declare, I used to think David was rather hard on mankind when he says 'All men are liars.' But since I went down to Washington and saw how they lied about the Sanitary Commission, I think he wan't much out of the way. Things down there could not have been better managed if I had done it myself." I guess she is about right, and folks need not be afraid of doing too much for our soldiers. The poor fellows are fighting our battles, and we ought to do every thing we can for them when they are sick and wounded. Three years fighting has not made us poor, we have only grown rich and saucy. Hookertown is as chockful of fight as ever. We have some soldiers' graves among us, and some in old Virginia, and by the bones of our honored dead we are going to see this thing fought straight through.

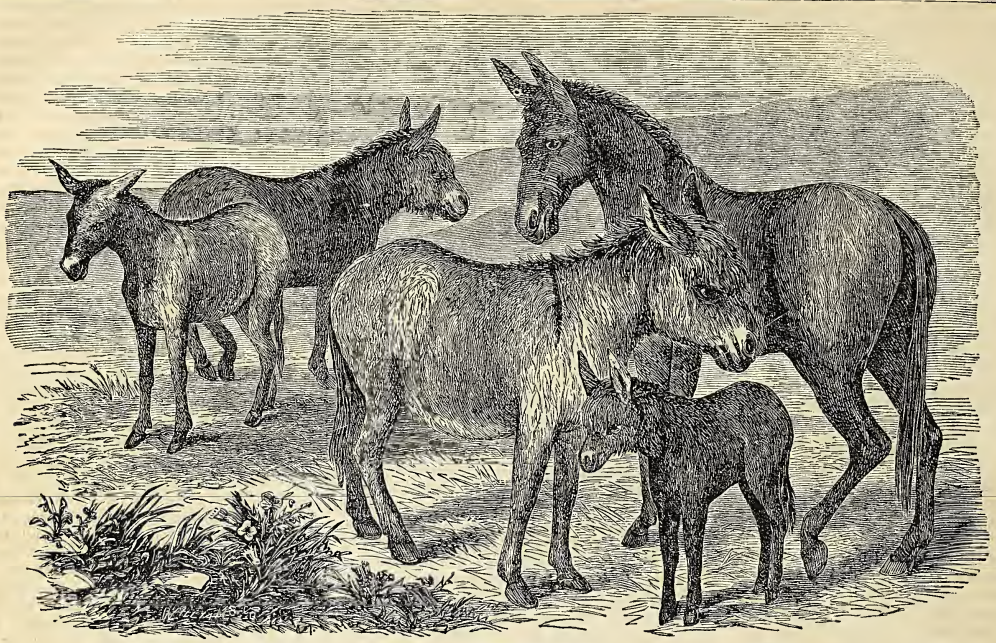
Hookertown, Conn., Oct. 5th, 1864. Yours to command, TIMOTHY BUNKER Esq.

Buckwheat Straw.

When we began farming we adopted the practice of our neighbors in regard to buckwheat straw; considering it unfit for fodder or litter, it was cast out into the barnyard to rot. It was said that when used for fodder or litter, it caused cattle to shed their hair, and sheep their wool, and even swine would lose their bristles if this was given as bedding. In the manure heap it was little esteemed as it was said to be "poison stuff" to the land. By repeated trials I am satisfied that these charges are all false. Cattle and sheep eat it readily in preference to the straw of any other grain; they do not lose their hair or wool, and no injurious effects have followed its use as bedding. It should be threshed as drawn in from the field, and as the straw is often quite green, should be stored in some airy loft. This can not be relied on for very solid fodder, but thrown into the yard rack on a cold day it makes a good and relishable lunch for the cattle. For the last two years I have fed it out soon after threshing, while still green, to milch cows, with apparent benefit. Never having fed it alone, I can not speak of its value accurately, but esteem it quite too good to be wasted. While cattle are receiving pumpkins, carrot tops, turnips, apples, and corn stalks, this may be added, and with their gleanings from the pastures help out the milk, improve the condition of the stock and save the haymows. Our practice is to cut the buckwheat before the frost has destroyed the leaves, and set it up to cure in small stacks or "Indians." If allowed to lie and bleach in the swath and gather grit from the soil in every rain, any wise animal would reject it. G.

Notes on Grapes and Grape Culture.

So great has been the improvement in grapes within the past few years that grape growing almost seems like a new branch of horticulture. The very general interest taken in this fruit, impels us to keep the readers of the *American Agriculturist* posted up in whatever falls under our observation in respect to new and old varieties. These notes are made upon grapes as we see them upon the vines of skillful growers, and upon specimens forwarded for our tables. The past season has been unusually favorable for the grape, there having been very little mildew, and although insects have been very troublesome, they do not seem to have caused very serious damage. The old varieties, Isabella and Catawba, have generally done finely and have ripened with an earliness and perfection seldom equalled. Specimens on our Tables, of Isabella from Thos. Harris, of Brooklyn, and of Catawba, from John Cole, of Staten Island, are each remarkably fine of their kind. A number of seedlings have been submitted for our judgment, many of which promise well. There are two things to be borne in mind in regard to seedlings: 1st. A vine should be fruited four or five years before any safe opinion can be formed of its fruit, and; 2nd. It is of no use to continue to grow a seedling, and thus multiply varieties, unless it has some superiority over sorts already in cultivation. A seedling is often sent with the statement that the plant has had neither cultivation nor pruning. This is very unfair toward a plant, which if it has any merit at all, should have a chance to develop it. A seedling of the Isabella from Carlise, Pa., has remarkable sweetness, and is early, but with such poor bunches from neglect, it is not to be commended. This is mentioned in illustration of many similar cases, and those who have shown us seedlings which are not noticed, may understand this to be the reason. Unless a seedling is at least as good as a Delaware, Iona, Concord, Diana, or some other of the best sorts, it had better be given up at once.... *Maxatawney:* this grape has fruited well near Newburgh, and at Rochester, this year. It was nearly ripe at Rochester, on Sept. 17, and in this favorable season would doubtless perfect itself there. It has great beauty, is a good bearer, an excellent white grape, and we shall be glad if it prove hardy, but with our present knowledge we can not recommend it for northern localities..... *Creveling.*—A distinguished grape-grower has given it as his opinion that this is the best black grape we yet have. Though not prepared to endorse this opinion, we can safely rank it with the best grapes. Its reputation has been injured by the exhibition of small and loose bunches. When well grown, it forms a well-shaped, compact bunch, a good sized berry, with almost no pulp, very sweet and of a peculiar and delicate flavor; altogether it is a satisfactory fruit..... *Rogers' Hybrids.*—An extensive series of seedlings sent out under numbers, but though called "hybrids," they have no characteristics of the European grape. The colors range from white to nearly black, the berries vary much in quality and time of ripening, are large, thick skinned, showy, and some are foxy and burn the tongue. Being designated by numbers, there is already much confusion among them from the changing of numbers. The whole set is a complete muddle, and we do not think that the cause has been advanced by throwing such a crowd of varieties upon the public. If three or four of the best had been selected it would have been better. Numbers 1, 3, 4, 9, 13, 15, 19 and 30, have been by different parties considered as the best. We have tried them from several different sources, and have not seen a first-class grape among them..... *Norton's Virginia.*—From what we have seen of this we are disposed to think well of it as a wine grape. Its reputation is established at the West; let us hear from our Eastern friends.... *Allen's Hybrid* does well in many places, and *then* is the best white grape. Worth trying by amateurs, but will not endure careless treatment.... *Iona.* This grape has been much injured by the very persistent puffing it has had in some quarters, and by the exhibition of poor and badly grown specimens. The present season we have seen it growing in several places, and have tasted and examined the fruit from different localities. That we may not be charged with any partiality in its favor, it may be well to say, that the writer has no acquaintance with the originator of the variety, and that his opinion is formed entirely from the fruit and vines grown by other persons. Thus far it is decidedly the best native grape yet brought out, and though time may develop faults in it, none are perceptible now. Those who have only seen the specimens exhibited in New-York City, can have no idea of the perfection and beauty of which the Iona is susceptible.



SYRIAN ASS. ENGLISH ASS. SPANISH ASS AND FOAL. MULE.

GROUP OF THE DONKEY TRIBE.—*Engraved for the American Agriculturist.*

The Ass and his Progeny.

The interest now excited among benevolent people in England to secure kind treatment for the abused donkey, reminds us of a purpose of telling the readers of the *American Agriculturist* something about this, the favorite saddle beast in many countries, the poor man's companion, and children's pet and playmate over all Europe. Our illustration shows a group of the more valued kinds. This animal, with which we associate qualities of meekness and obstinacy, stupidity and patience, surefootedness, longevity, ability to bear privations and abuse, and to live on "next-to-nothing and thistles," is a stranger to our farms, and village streets. He is not seen on our mountains, nor does he bring fruit and vegetables to our city markets. Wherever found in this country, he is a curiosity almost; and the sonorous voice of the braying trumpeter of the fables, is an unknown sound, except in a few mule-raising districts. Throughout nearly all the rest of the civilized world man finds use for the donkey. He is emphatically the poor man's beast of burden. Living upon the coarsest fare, dried leaves, weeds of almost all kinds, straw and fodder refused by other stock, are all he wants as food, and if his fastidious craving for pure water be satisfied he is quite content. The ass is exceedingly like the horse in structure and nature, and in fact many kinds of horses are more unlike each other in appearance than are some horses and asses. This animal doubtless originated in that quarter of the globe which is regarded as the cradle of the human race, and it has been known in a domesticated condition since the earliest time of which we have record. In the East certain breeds possess great beauty, and combine sleekness of coat, pride of carriage, and fleetness, with the other qualities we have mentioned. Neglected and abused as he usually is in Europe, the race dwindles in size, until specimens are often found smaller than the smallest ponies. Still with this diminutive size we find hardiness of constitution, toughness, freedom from disease, strength, capacity for carrying burdens and for draft, the like of which, in proportion to its size, no other quadruped possesses. The hoof of the Ass is more upright than that of the horse, and it is harder and tougher, so that shoeing is not so necessary. The pastern joints are shorter and stiffer, and it may be this peculiarity which gives the Ass so sure a foot, and makes the fault of stumbling so very uncommon.—The great length of the ears is well known. In common with others of the horse family (genus *Equus*), especially the Quagga and Zebra, the Ass has a dark stripe down the back from head to tail, crossed at the shoulders by another. The superstitious peasantry of Europe regard this as the sign of the cross, from an ass's colt having been used by our Saviour. The prevailing colors of the Ass are dun or mouse color, maltese and black, but white, bay and brown are seen occasionally. Wherever this animal has been carefully selected and bred, it has been greatly improved. The best and largest, used for mule breeding, come from Spain, and from the East, where Smyrna is the chief market, and they have also been bred with great care for size and beauty in some parts of South America. The mule is a hybrid resulting from coupling the male ass with a mare, and possesses the external qualities, voice and intellectual character of his sire, having the frame and internal organization of the horse. The Hinny, which is the product of crossing the she-ass with a horse, has the neigh, with the flowing mane and tail of the horse, and its external appearance is much less asinine than the mule, but the frame is small and its internal organization takes after its dam. It is on the whole a much less profitable animal than the mule. Neither the mule nor the hinny are capable of breeding.

[Those who are in, or have accompanied our armies during the present war, know that the wagons of the Army of the Potomac's immense supply train, often spoken of as being "nine hundred miles in length," are nearly all drawn by mules, six to the wagon. We have seen almost if not quite a hundred acres covered with these six-mule, canvas-covered wagons thickly "parked" together. The food almost always irregular, and sometimes scanty, with the treatment they receive from such drivers as they have, mainly ignorant negroes just emancipated, would break down horses faster than they could be transported to the army. Indeed, we can scarcely conceive how the army could have been supplied in its lengthy march from the Rapidan to the James, had not these mule teams been secured. We often wondered where so many mules could have been gathered in this country.—O. J.]

NEAT'S FOOT OIL is the very best preparation for softening and preserving leather. A supply should be on hand in every house for use on harness, carriage tops, boots, shoes, etc., and applied often enough to keep them soft and pliable. To prepare it, break and cut into small pieces the shin-bones and hoofs of an ox or cow, and put them into a kettle. Keep them covered with water and boil until the oil is extracted and rises to the surface. While boiling, water enough should be added from time to time to supply that lost by evaporation, so that the oil shall not come in contact with the bones and be again absorbed. The process will be hastened by keeping the kettle closely covered to retain the heat. When cold, the oil may be dipped off and kept in jugs or bottles tightly corked.

The Alder-leaved Clethra, or Sweet Pepperbush.—(*Clethra alnifolia.*)

Among the many wild plants which should be generally cultivated, few are more deserving of attention than the Alder-leaved Clethra. It has two strong claims upon our regard: it blossoms during the heats of August, when most shrubs are out of bloom, and it loads the air with a delightful fragrance. The shrub rises from three to eight feet high, and is found growing in clumps in swamps, and along streams in all the Eastern States, from Maine southward. The leaves are shaped something like those of the Alder, from which fact the plant gets both its generic and specific botanical name: *Clethra* is the Greek name for Alder; *alnifolia* is from the Latin, and means Alder-leaved. The flowers are borne in a long, narrow spike, and as they are produced in abundance, the bush is quite showy when in bloom. The individual flowers are small, five-parted, white and very fragrant; indeed some consider their odor too powerful. The flowers are succeeded by small capsules containing many small seeds. Though growing naturally in wet places, the Clethra flourishes in any good soil, and flowers more profusely than in the wild state. It may readily be removed from its native localities, and propagates easily from cuttings and by layers. The engraving represents the flowers and leaves of the natural size, of a specimen from New Jersey. *Clethra acuminata* is found in Virginia and southward, but it is perfectly hardy around New York City. It grows taller, has more pointed leaves, and the flower-spikes are drooping.

Something about the Names of Plants.

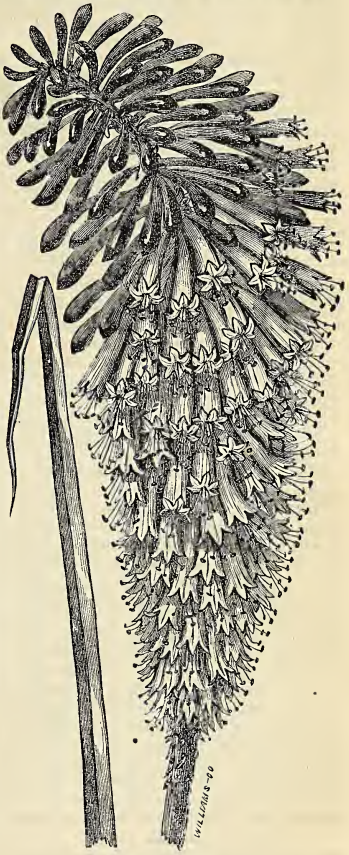
A correspondent asks: "Can you recommend a book upon plants which is not filled with jaw-breaking Latin, and other foreign names?" This impression—that the names of little known plants, insects, etc., are usually difficult to recollect—is quite common, but there is very little foundation for it. It is the novelty, rather than any real difficulty which the name presents to the memory, that strikes one. If we have any real interest in an object, the name is easily enough remembered. Let a battle take place at Chickamauga or Chattanooga, and every one remembers the names without any especial effort, yet they are much more uncouth than most scientific names. Indeed we very frequently use "botanical names," without knowing it. Hyacinth, Crocus, Magnolia, Lobelia and many other plants have their scientific and popular names the same. Those who complain of the difficulty of "Latin and other foreign names," remind us of an old gentleman of our acquaintance, who went to hear a college literary oration. Upon being asked his opinion of the performance he replied: "It was all very good but I do not like so many Latin quotations. For my part *bona fide* English is good enough for me." Doct. R. A. C. Pryor, of London, has published a work upon the origin of the popular names of British plants, in which it is shown that many of our commonest names of plants are either slightly changed from very "foreign" languages, or are adopted from those tongues without any modification whatever. Thus: Beet is from the Greek, *Beta;* Fumitory is slightly changed from *fumus terræ*, the Latin for earth-smoke; Spinach, is the Italian, *spinace;* Mullein is the French *Molein*, and the common Dandelion is a slight corruption of *dent de leon*, the French for Lion's tooth. If all names of foreign origin were discarded from English books, our plants would be poorly off.

Heeling-in — Method and Advantages.

The heeling-in of plants, or as it is sometimes called "laying in by the heels," is frequently convenient, often necessary. It is simply placing trees, shrubs, etc., in a trench and covering the roots with earth; but it should be done carefully, or the whole stock may be lost. A dry, protected situation being selected, a trench is dug, wide and deep enough to receive the roots of the plants, and of any convenient length. The earth should be thrown out all upon one side so as to make a bank next to the trench. The plants are then set close together in the trench, in a sloping manner with the tops leaning against the bank of soil. When one trench is filled, commence another as near as may be, using the earth from the second trench to cover the roots in the first one. Put in the earth gradually, so as to fill all the spaces around the roots. Smooth off the surface so as to shed rain, and dig a drain around the whole to carry off surface water. Hardy trees, shrubs and vines, will pass the winter thus in perfect safety, and in cold locations it is better to treat them in this way than to plant in autumn. Nursery stock may be purchased in the fall, and be at hand ready for spring planting. If grape vines are heeled-in, it is best to cover the tops as well as the roots, and the same with roses. The tops are better not covered with soil until there is danger of the ground becoming frozen.

Fine Garden Ornament.—(*Tritoma Uvaria.*)

The *Tritoma* is a fine herbaceous plant, from the Cape of Good Hope. It belongs to the Lily family; it does not, like the true lilies, form a bulb, but grows from a thick root-stock. It was formerly grown exclusively as a greenhouse plant, but it is found to be at least half hardy, and with care may be wintered out of doors. One great merit of the plant is its late



TRITOMA UVARIA.

blooming—it begins to flower in August and lasts into October. The leaves are long and flag-like, and have a sharp keel so that they are in a measure three edged. The name *Tritoma* comes from the Greek word meaning three, and, to cut, referring to the three sharp edges which the leaves present. The flower stalks are three feet or more tall, and bear upon their summit a cluster, over a foot long, of tubular, pendent flowers. The flowers are very densely crowded in the cluster, and before opening are of a dark, orange red, while the open ones are of a lively yellow. As the flowering commences at the lower part of the cluster, it presents a pleasing gradation from yellow to deep orange. It is altogether a showy and stately plant, and nothing

ean be more brilliant than a group of it seen against a background of evergreen or other shrubbery. It propagates with the greatest ease, as it throws up a great number of suckers, each of which will make a plant. Although it will flourish in any good garden soil, it will bloom much more finely if it has a deep, rich spot prepared for it. The *Tritoma* may frequently be preserved through the winter in the open ground, by covering with a good coat of litter, but it is safer to lift the plants and put them in the green-house or cellar. There are a number of varieties, which differ somewhat in their habit and time of flowering. The variety *glaucescens* has a peculiar shade of green in its foliage, and is the earliest flowering, while the variety *serotina* is the latest, and has a more robust growth than the others. Plants may be had of all extensive florists. They were sold last spring for 50 cents each, and probably will soon become generally diffused.

Fig. 1.—NEW AMERICAN WILLOW.

Coal or Gas Tar Useful for Walks.

While visiting the grounds of a friend in Astoria, we were struck with the excellence of his paths, and found that they were made with common coal or gas tar, and sand. The surface for the path is first graded and covered with an inch or two of sand; it is then flowed with the tar and then a covering of sand or gravel is placed over this. In a few mouths the whole forms a hard mass as firm as stone. The walk when first made is a little yielding, but it may be used at once, taking care that any inequalities be remedied before the work finally hardens. A walk made in this way is very firm, will not wash when made upon a slope, requires scarcely any repairs for years, and—what is a most important advantage—does not allow a weed of any kind to grow upon it. It is stated that a barrel of tar will make about 50 feet in length of walk, four feet wide. In those localities where good gravel can not be had, this enables one to make satisfactory walks from any coarse sand at a little cost. A correspondent in Fulton Co., N. Y., inquires if the use of tar for walks has been patented. If it has been, we have not heard of it; we know that it has been in use for walks, gutters, and similar purposes for several years; a patent would hardly be given.

Keeping Parsley for Use during Winter.

Housekeepers who value this for seasoning and for ornamenting dishes, can have it all winter with very little trouble. Take up a stock of roots and set them in a box of earth. This may be kept in a light cellar, wash-room, or any place where it will not freeze, and give a good supply. A barrel or keg with auger holes bored at intervals may be filled with roots and earth, the crowns of the plants being placed at the holes, and the barrel or keg filled with earth. This being set in the green-house or even in the kitchen, will give a supply of parsley and make a very pleasant green ornament. The plants left in the bed are to be covered with cedar boughs or some other similar protection.

Ornamental Trees — Weeping Willows.

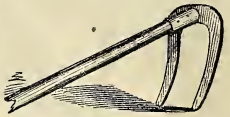
Every one knows the common Weeping Willow, *Salix Babylonica*, for it has long been used in this country and in Europe as a Cemetery tree. The custom of planting it near graves appears to have been derived from the Chinese. The most appropriate place for the common Weeping Willow is along the margins of lakes and streams. Its peculiar habit does not accord well with buildings, and it does not produce a good effect when placed near them. It is one of the few weeping trees which preserve this habit when grown on their own roots. Most of the trees with pendant branches require to be grafted standard high upon some stock, and we

Fig. 2.—KILMARNOCK WILLOW.

have weeping ashes, mountain ash, peach, with numerous others, which very often form curious but inelegant specimens. There are two willows with pendulous branches, which are not generally known, but which make very symmetrical trees for the lawn. The "Kilmarnock Willow," has such a very broad leaf that few persons would recognize it as a willow. The branches have a marked pendulous habit, and grow so densely as to present a mass of glossy foliage without either the limbs or the trunk being visible. The tree is perfectly hardy, and usually grows much taller in proportion to its width than is represented in figure 2.—Another lawn tree is the "New American Willow," (fig. 1), called by the bogus botanical name of *Salix Americana pendula*. It is the old *Salix purpurea*, which left to itself becomes an unsightly shrub, but when grafted at the hight of five or six feet on a proper stock, forms a remarkably symmetrical lawn tree. We believe that *Salix Russeliana* is one of the stocks used for this species. When treated in this way, it is kept in a round head with but very little trouble. If any branches tend to grow upward they only need to be bent down and turned under the others. Both the Kilmarnock and so-called New American Willows are desirable lawn trees. The engravings herewith are made from drawings of trees in the grounds of Messrs. Frost & Co., proprietors of the Genesee Valley Nurseries.

Fruit Growers' Implements—Hoe Fork.

This is one of the few implements imported from Continental Europe, which seem to be of use in our systems of culture. The forked hoe or hoe fork, sometimes called a hook, is shown in the engraving. The back, which is about six inches across, has two strong teeth like those of a spading fork, 7 or 8 inches long. A proper socket for the handle completes the tool, which may be made by any blacksmith. At the West it is considered indispensable to the fruit culturist, and is one of the best implements for the cultivation of vineyards, young orchards, strawberry beds, etc. In the use of the plow, or the cultivator even, unless carefully arranged, there is danger of injuring the surface roots. Many a vineyard has been seriously injured by cultivating it with the plow. The use of the hoe fork will avoid all danger to the vines, loosen the soil to a sufficient depth, and one accustomed to its use will do a good amount of execution.

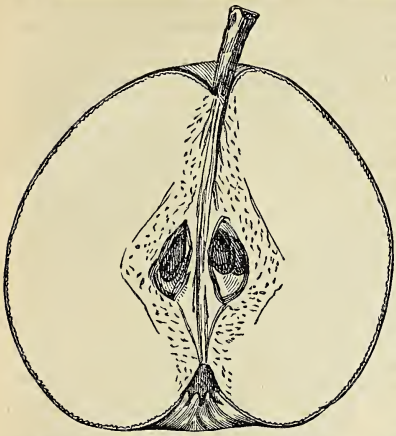


HOE FORK.

A Note on Keeping Scarlet Geraniums.

Mr. F. Scholer, writes: "About the time I expect my geraniums will be injured by frost I dig them up, shake all the earth from the roots, and hang them up in a cool cellar. In March I take off all the tops for cuttings and start them in a box of clear sand, covered with a large pane of glass. A box was placed in a warm kitchen and over a hundred of the cuttings lived. These together with the old plants were set out in the garden and gave a fine bloom." This method is not a new one and will succeed pretty well with the scarlet geranium and its varieties, which make a very large stem. The cellar should be dry as well as cool.

THE CRAB APPLE AS A LAWN TREE.—An ordinary crab apple tree loaded with fruit is a pleasing object, but to have it in its finest condition the tree should be grafted on a dwarf stock; it can thus be made to form a low well-shaped head. Nothing can be finer for a lawn than these dwarf crabs. They are showy when in flower in the spring, and again in Autumn when loaded with their gaily colored fruit. A leading nurseryman informs us that the demand for these at the West is large.



The Sheldon Pear—A General Favorite.

A novice, in looking over a full list of pears, is often bewildered at its length, and is confused at the variety of opinions given as to the quality of each. Some are good but do not bear well, others are prolific but indifferent as to quality, and some are good in one locality and not in another. In this conflict of opinion it is refreshing to find in the Sheldon one variety upon which all are agreed, and which is equally praised by fruit-growers from Massachusetts to Missouri, and from Pennsylvania to Wisconsin. At the recent meeting of the Amer. Pomological Society, there was no other fruit respecting which there was such unanimity. One member stated that "nothing could be said against it." It is a singular fact that many of our best pears are accidental native seedlings, and these are often superior to those which have been raised with great care from the best known foreign varieties. The *Sheldon* originated at Penfield, Wayne Co., N. Y., on the farm of Mr. Sheldon. The tree is a vigorous grower and healthy, and will bear as much fruit as the Bartlett, or more. Its color and often depressed form make it frequently look much like a russet apple. When well ripened it has a fine ruddy cheek, and is altogether a very robust looking fruit. It has a very high flavor, which may not be relished by some who like sweet and characterless pears. It does best as a standard, but will grow well on quince provided it be double worked. One of our most experienced nurserymen says it has less affinity with the quince stock than almost any other pear. The illustration is taken from a medium sized specimen sent us by Ellwanger & Barry, of Rochester. The following description is modified from Downing: Fruit above medium size, roundish, truncate-conic, sometimes oval or Bergamot shape. Skin yellowish- or greenish-russet, often with a richly shaded cheek. Stalk short, inserted in an uneven cavity. Calyx small, set in a narrow basin. Flesh a little coarse, but of good quality, melting, juicy, with a very brisk, vinous, highly perfumed flavor. Ripens in September and October.

THE DIGNITY OF AGRICULTURE.—B. F. Taylor, in the Chicago Tribune thus "hits the nail on the head" on this subject: "A world of words is annually expended to set forth the honorable nature of Agricultural pursuits, as if they needed a periodic bolstering into respectability. People talk about farming, much as the fellow did, in Charles Lamb's presence, about honesty. He lauded it as a virtue; eulogized them that possessed it; he varied the words, and laughed and eulogized again; and after he had finished his discourse, 'Ella' removed his pipe from his mouth, and simply asked him: 'Do you mean to say that a rogue is not a good man?' That question sat snugly over the blaze of talk like an extinguisher. Now, Agriculture is honorable if you make it so; it is a noble calling, if noble men engage in it. The dignity of agriculture will take care of itself; it is the dignity of the agriculturist that is a matter of concern. A man may be as honest who guides a pen as he who guides a plow; a soft hand is not, as from the way people talk sometimes one would think, the correlative of a soft heart; because his hands are white and the palms are smooth, it does not follow that his heart is black and his spirit harsh and rough." The converse is equally true.

THE HOUSEHOLD.

An Invitation to the Ladies.

Every good housekeeper will be likely in the course of her experience to hit upon improvements in the various departments of domestic industry. The *Agriculturist* is frequently enriched with hints and suggestions obtained in this manner, and communicated to its columns for the general benefit, and our thanks and those of our readers are due to all who have thus aided in making housekeeping easier or more satisfactory. This field is not yet half exhausted, nor even explored. Some member of nearly every one of the hundred thousand families constantly visited by this journal, could contribute at least one item about cooking, washing, mending, furnishing, managing, or other of the thousand and one matters coming daily under her practical notice. Will each lady reader please consider herself personally invited to give a plain, simple account, of any process wherein she is specially successful in saving labor or in producing a better article than is made by methods in common use. If only a single thousand should do this, there would be a thousand valuable items for all to enjoy and profit by. Let us have them.

Household Notes for November.

The winter schools open this month in many sections. Supply the children with proper books, slates, etc. A few shillings or dollars even, expended in this direction are well invested. We have known parents to expend thirty to fifty dollars, or more, in getting a child to school during a winter, including clothing, etc., and yet lose half the benefit that might be secured, through parsimony in withholding a few extra shillings for suitable books and stationery. Let every child have a full supply of pencils, pens, paper, ink, etc. With these to occupy every minute not engaged in study, their hands and minds will be kept out of mischief, while they will be acquiring taste and skill in sketching. If you are a Trustee, don't economize the wrong way by hiring a poor teacher at two-thirds the price of a good one, thus losing all your money and the precious time of the children. Be sure the schoolhouse is comfortable. A quiet, orderly school can not be maintained when teacher and children are obliged to crowd around the stove to keep half warm.....Do not let fall fruit waste. Feed out rotting apples; dry all you can; make up a tub of cider apple-sauce, and another of apple butter. Sweet apples make excellent pickles.... Examine dried fruit to prevent it from becoming wormy. It is stated that sassafras bark put among dried fruit will repel worms for years....Don't depend on the men-folks to get everything out of doors ready for winter; they have many things to attend to, and some of them are "slack." See that the strawberries are properly covered, the tender grapes and raspberries laid down, the asparagus beds and pie-plant roots covered with stable manure. Perhaps they have forgotten to bank up the young fruit trees to protect them from mice, and to spread manure around them that the richness may be carried to their roots during winter. Insist that the men or boys gather a year's supply of good wood, and work it up during the winter.. Have whole lights of glass in all the windows, bank up the house if needed, see that ventilators are all right, siding tight, doors well fitted, latches whole, tools sheltered, cellar warm, walls plastered, etc....Take good care of vegetables. Have a dark place for potatoes, and shelves or barrels for apples; keep beets in sand, bury cabbage in such a manner that they may be easily taken out at any time. Put pumpkins and squashes in a dry place where they will not freeze.....Keep Thanksgiving day.

Fresh Beef from Salt Junk.

If a piece of salt meat be put in water either in a vessel the bottom of which is made of a bladder, or in a bag made of untanned skin, and *this placed in another vessel of water*, the salt will be gradually drawn out of the meat, and pass through the parchment or skin, but the juices of the meat will be left behind in the first vessel. Brine in the beef barrel contains a considerable portion of the juice of the meat, which may be saved by filling the inner vessel with it; the salt from both brine and meat will pass through the membrane. The process is to be continued until salt enough is extracted to leave the meat and liquor palatable. This method is known and practised upon by sailors in the Mediterranean Sea, who enclose their salt junk and a portion of the brine in a "water skin," that is, a bag made of goat skin for holding water. This is attached to a line, thrown overboard, and towed through the water, until the meat and liquid are freshened to the same degree as sea water. The liquid is then used for soup, and the meat cooked as wanted. A similar operation may be made very useful by soldiers in camp where fresh meat is unobtainable, and in families where salt junk forms the staple diet several months in the year. This curious phenomenon was discovered by Thomas Graham, of London, who found that organic (animal or vegetable) membranes will separate crystallizable bodies in solution from those of a glutinous character. Thus, if the inner vessel contains a solution of sugar or salt mixed with gum arabic, the crystallizable sugar or salt will pass through the membranous skin, and leave the gum behind. The process is called *dialysis* and the apparatus for effecting it, a *dialyser*. It is of service in chemical and manufacturing operations.

Salt and other Minerals in the Food.

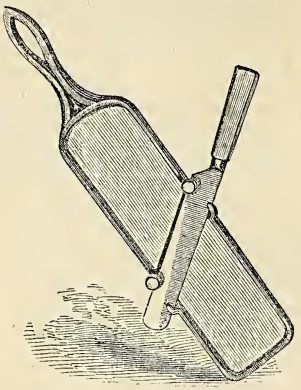
"A Subscriber" asks: "What use the living system makes of salt, soda, saleratus and other minerals," and also desires the name of the "mineral constituents of grain." Several others have inquired, why salt is recommended for animals, intimating that in their opinion no such mineral constituent was needed by them. To take up the salt question first: Salt is found in almost all parts of the body and is especially a component of healthy blood. The following figures show the parts of salt in 1000 parts of several different constituents of the human body. In muscles 2, bones 2½, saliva 1½, bile 3½, blood 4½, mucus 6. It cannot be that this should always be present accidentally or needlessly. It is believed to exert an important influence on the solubility of substances in the fluids of the body and thus render them

capable of passing through the tissues, and it likewise forms an important portion of the fluids concerned in digestion. In regard to the use of salt, our most distinguished physiologist says: "This custom does not simply depend upon a fancy for gratifying the palate, but is based upon an instinctive desire for a substance which is necessary to the proper constitution of the tissues and fluids. Even the herbiverons animals are greedy of it, and if freely supplied with it are kept in a much better condition than when deprived of its use." Well attested experiments with an equal number of cattle regularly fed with salt, and those without it, show, that at the end of six months, the former lot were in vastly better condition than the others. With regard to soda (carbonate) and saleratus: the alkalies of these are present in the blood and other parts of the body; the blood is alkaline, a condition which is essential to life, and the alkaline character is given to it by the carbonates of soda and potash. Enough of these, however, are taken into the system in the various vegetables used as food, and we decidedly object to the excessive quantities often used in cooking. As to the mineral constituents of grain; these are silica, phosphates of lime, and magnesia, salts of potash and soda. The most important of these is the phosphate of lime, which gives strength to the bones, it forming over half their weight. Now this mineral ingredient, without which the bones would yield and become distorted, as they do in some diseases, is supplied to us in every grain used as food. More than one half of the ashes of wheat consists of phosphates of lime and magnesia. The grains themselves contain the following percentage of mineral constituents: Wheat, 2.75; Rye, 2.60; Oats, 3.25; Indian Corn, 1.25; Rice, 0.90. It will be seen from this statement that those who object to taking any mineral substances into their systems must refrain from the use of food altogether—for both animal and vegetable substances contain a notable proportion of the mineral ingredients above enumerated.

More on the Bread Question.

A French contributor, A. Valliet, Madison Co., Ill., sends the following recipe to the *American Agriculturist*, which we translate: "Cook a handful of hops in a half gallon of water, until it is reduced to about half; pass the liquid through a sieve and turn it while hot upon enough flour to make a thick porridge, and when nearly cool, add a pint of brewers' or other yeast, and set the vessel in a warm place until it rises. This yeast will be fit to use in about 12 hours. It should be put into a well closed jug and kept in the cellar. In using it, a pint should be kept with which to make a new quantity when needed. To make bread, take 1 pint of this yeast to 10 lbs. of flour, and with water and salt make a stiff dough which should be well kneaded on a moulding board. Let it remain 10 or 12 hours (in a warm place in winter) or until it is well raised. Then take pieces of the dough of the size of an egg and roll into biscuits and place them in a pan so close that they will touch one another; let them remain to raise another hour and then place them in the oven. If these conditions are observed, with good flour, you will have light and spongy bread, and never sour even when it has raised a little too much. If the flour is not good, still good bread may be made by using milk instead of water. In making new yeast, it is well to wash out the jug in order to avoid sourness. If preferred, the bread may be made into larger loaves."

Light Biscuit.—Contributed to the *American Agriculturist* by "M. S.," York Co., Me.: Boil and then peel 2 potatoes, mash fine, add ¼ cup of flour, mix well, then pour on 2 cups boiling water, keep it as warm as new milk or about 90°, for 12 hours: it will keep good several days. This preparation we will call No. 1. No. 2 is made by putting 1 cup of buttermilk or sour milk, ½ teaspoonful each of sugar, and salt, and ½ cup of No. 1 into a bowl and letting it stand one night, or 12 hours before it is used. On the same evening that No. 2 is made, prepare No. 3 thus: Put into a quart bowl 6 tablespoonfuls new milk, a piece of butter as large as a walnut, 3 tablespoonfuls of flour, and 3 tablespoonfuls of No. 1. Let this stand where it will be hardly lukewarm until the next morning. When the biscuit are to be made, stir Nos. 2 and 3 together, add flour enough to make a very stiff batter, then stir in one even spoonful of fine saleratus mixed in dry flour. When well incorporated, knead into smooth dough, but not too stiff, roll out, cut into form and bake 30 minutes. The biscuit will be soft, light and sweet, if made of sweet flour, even if it is not of the very first quality.



Convenient Vegetable Slicer.

The use of the implement represented above will be readily seen by every housekeeper. With it cucumbers, tomatoes, potatoes, apples, etc., can be easily, rapidly, and evenly sliced. It consists of a metal plate to which a common table knife, well sharpened, is attached and held in place by the supports and screws shown in the engraving. The screws are adjusted to regulate the thickness of slices. In using it, the operator with one hand holds the plate in the position shown above, and with the other passes the article rapidly over the knife. The slices fall through an opening in the plate, and may be received in a dish set behind it. The plate in the best patterns is of enameled iron. The article costs from $1 to $1.25, at retail.

Hints on Cooking, etc.

Plum Pudding.—Contributed to the *American Agriculturist* by E. S. Thomas, Kent Co., Md.: Mix 2 cups flour, 1½ teaspoonfuls cream of tartar, 2 cups sour milk, ½ teaspoonful soda, 1 cup raisins, 1 of dried currants, ½ teaspoonful each of cinnamon, and cloves, ½ cup each of molasses and sugar. Boil about 1½ hours and serve with butter.

Sponge Griddle Cake.—Contributed to the *American Agriculturist* by Jennie Adams, Clinton Co., O.: Take one quart of mush, while warm add one pint of buttermilk, one of sweet milk or water, one teaspoonful of soda, stir in flour until it is a batter, let it rise until morning, then bake on the griddle, and serve while still hot.

Recipes Wanted, for the sauces used with meats, etc., known as Harvey's, and Worcestershire.

Substitute for Wicking.—"Prudent Housewife," suggests to the *American Agriculturist* that strips of cotton cloth, the older the better, make a very good substitute for candle or lamp wick. They should be rolled or twisted into proper shape and kept in form by tying with thread or some ravelings. This may now and then save a penny, and thus earn two pence.

☞ For more Household Items, see Basket.

(From the N. Y. Christian Advocate and Journal.)

Melodeon—Harmonium—Cabinet Organ.

The use of musical instruments is among the most invariable accompaniments of civilization, beginning at its lowest stages, and advancing in complexity and power as the art is more thoroughly cultivated. Probably in this country the influence of music, and consequently the appreciation of musical instruments, is relatively less than in most communities, whether of a higher or lower grade of civilization. Our people have devoted but little attention to matters purely æsthetical, while their earnest devotion to business engrosses their thoughts, and leaves their tastes uncultivated. Yet immense sums are annually expended by our middle classes for musical instruments and for instruction in their use. The piano has become a kind of household divinity, though often, like others of its kind, its worship is very imperfectly rendered, and sometimes quite omitted. As yet that instrument is far in advance of the musical culture of the people of this country. It is also too expensive to fall legitimately within the reach of the many, and its use requires the devotion of more time and labor than can well be afforded; and beyond these considerations is the more formidable one that its music, when properly executed, is above the prevailing tastes of the people. Doubtless nine tenths of the pianos in the houses of the American people are kept only for show, not, however, because of their beauty, but as signs of wealth and elegance. An instrument adapted to evoke and answer to the native love of music among the masses, and by gratifying its earliest cravings to lead it to higher excellence, has long been a desideratum among us. How nearly this new kind of instrument comes to meeting that requirement is perhaps yet a question, though evidently it makes some advance toward it. It may also be hoped that it will yet do much more in the same direction.

As usual in such cases the new and large demand for these instruments has induced a great number of persons to engage in their manufacture, some of whom are quite unequal to the business they have undertaken. It requires something more than the mechanical skill of the artificer in wood and iron to make and prepare for use a musical instrument; and yet some have evidently brought nothing else to their aid in the business. The result is that the country is becoming filled with inferior and defective instruments. Large sums of money are expended for valueless articles, and the people are defrauded of their needed musical education. The evil is intensified by the fact that these inferior instruments are, on account of their inferiority, most industriously urged upon the public. Because they cannot compete with better ones in the open market, they are pressed upon the public by direct solicitations; and because they offer larger commissions, they are those most commonly offered by agents and hawked by peddlers. And as most purchasers are unable to judge of the relative merits of these things, the inferior articles are often bought when better ones are desired, and would be cheerfully paid for.

Induced by these considerations, we have been at some pains to ascertain what instrument of the many now soliciting the public favor combines the greatest amount of real excellences. We have prosecuted this inquiry entirely independently of aid or direction from interested parties. The opinions of some of the best musical critics, composers, and performers have been obtained; reports of experiments made in the ordinary use of various instruments in churches, schools, and families have been compared, all of which with singular unanimity concur in assigning the first place to the cabinet organ of Mason & Hamlin—a decision that corresponds with our own previously-formed convictions, received from personal observations.

We are too little an expert in musical matters to rely very confidently on our judgment in such matters; but on account of the united testimony of those in whose opinions we have the fullest confidence, we unhesitatingly recommend that instru-

THE FAMILY UMBRELLA.—*Engraved for the American Agriculturist.*

ment as altogether worthy of general favor. But though we make no pretensions to critical powers in music, we still have our likes and preferences, and this instrument more nearly answers to our tastes than any other we have heard. We like its tones and compass of sound, and its organ-like depth and flexibility. It seems to avoid at once the asthmatic wheezing of the old melodeons, and the reedy clattering of the harmoniums. In short it makes good simple and natural music, such as the uncultivated ear is pleased to listen to, and with which the partially disciplined voice may readily unite; and both ear and voice are cultivated by it. The size and form of the instrument are also in its favor, making it an elegant and not cumbrous piece of parlor furniture. Its price too, ranging in these times of high prices down nearly to a hundred dollars — though more elaborately constructed and highly ornamented ones cost much more—brings it within the reach of the many. These remarks, however, scarcely apply to the large sized and finely finished ones, whose excellence in all things pertaining to an instrument of the kind, would justify much higher praise than we have given.

We have written these things without solicitation from any one, and without the knowledge of those whose pecuniary interests we may seem to favor The interests of our readers is the object we have sought especially to promote, and in that interest we have prosecuted our inquiries, and now we record our convictions. We write also in the interest of social music, music for the family, the school, the Sunday-school, and the neighborhood church, where the instrument is necessary to the maintenance of the most interesting portion of the devotional exercises—which with its accompanying good results is promoted by the use of a good instrument, but damaged by an inferior one Other instruments of the same family may combine many of the good qualities of the one we have named, but we commend no other as in all points its equal; and believing that in such a case it is as much a matter of economy as of good taste to 'get the best', we name only this one.

BOYS & GIRLS' COLUMNS.

About the Picture.

Were it not for the anxious looks of the aged "school ma'am," in the picture, one would almost forget the pouring rain, while looking at the sweet sunshiny faces nestled so lovingly together under the umbrella. Innocence and affection give a charm that nothing can equal. The tidy looks of these children, the capacious umbrella, almost too large for their little hands to manage, and their beaming faces, tell of a careful, loving mother, watching for their safe return. If we could follow them we should find a happy home—no matter how humble or lowly—a home bright as a blooming garden, and these two children the sweetest flowers there. Remember the secret of such a home—love and its fruits.

What a Toad Did for a Soldier.

We have often written in behalf of toads; we are glad to see them hopping around our garden in large numbers, and have paid boys for bringing them in there in baskets, by the hundred, as insect destroyers. A friend connected with the United States Sanitary Commission relates for the *American Agriculturist*, the following incident which he witnessed, that exhibits Mr. or Mrs. Toad in a new character: A number of wounded from the battle of Petersburg were lying in a hospital tent, among whom was a negro whose leg had been taken off. He was on a mattress on the ground, and the weather being hot, the dressed stump of his leg was exposed, and a swarm of flies were settling upon it Presently a large toad hopped into the tent, and taking his station near the edge of the bed began "gobbling" up the blue bottles in "double quick." The moment one alighted within six inches of the spot, he would square himself for the attack, his eyes twinkling with excitement, and then with a flash of his tongue and a smack of his mouth, the unlucky insect would disappear. The boy was asleep when this commenced, but soon awoke, and was at first frightened at the "ugly toad" so near him; but our friend bade him be quiet, and pointed out the service the creature was rendering. Then the negro and all present voted

nim a member of the Commission, with many thanks, and he and his kindred were at once in high favor.

Fig. 1.

Fig. 2.

Something About Signatures.

When a man who can not write is required to sign any document, he does it by making a mark, usually a cross, after some other person has written the name and the words "his mark"; thus, John $\frac{\text{his}}{\text{mark}}$ + Smith. The cross was first adopted as a name-sign, by the Popes; Cardinals, Archbishops, and Bishops followed their example, and others adopted it, until it became common. At that period, and for a long time before, not only the illiterate, but those who could write, used a sign instead of their

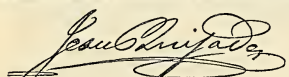


Fig. 3.

name spelled out. Some of these signs were very curious. Occasionally one would be quite elegant, requiring considerable time to execute it. Figs. 1 and 2, show the signatures of two lawyers who lived about the year 1300.

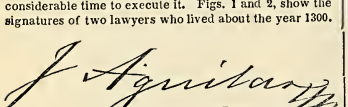


Fig. 4.

A curious custom about signatures prevails in Mexico. There the name is considered of little importance when signed to a document, unless some peculiar flourish of the pen is made with it. When two or more are united

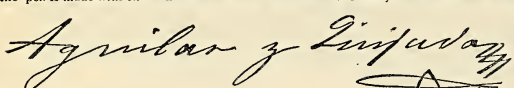


Fig. 5.

in a business co-partnership, each member of the firm has his own peculiar flourish, and each one also signs the name of the firm with some special mark. Thus: Fig. 3, shows the signature of Jesus Quijada; fig. 4, that of

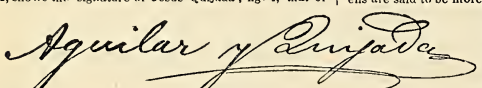


Fig. 6.

J. Aguilar; fig. 5, the name of the firm signed by Aguilar; fig. 6, the same signed by Quijada. This custom may have been adopted to make forgery more difficult. It is, however, generally considered easier to counterfeit a name surrounded by flourishes, than a plain signature.

A Hint on Spelling.

When a piece of music is played, it mars the pleasure if now and then a note is out of tune, especially if the listener has musical taste and culture. Just so in reading, a well educated person is annoyed by mis-spelling; his attention is distracted from the sense, and an unpleasant impression is left. Besides this it often requires no little time, study, and patience to make out what the writer means. The art of spelling should be acquired in youth. The best way to learn is by writing the words. Many can name the letters of most words, who make sad mistakes when they attempt to write: they have not learned to *spell with their fingers*. Ask your teacher or some other person to call off a column of words you think you can spell, while you write them. If you succeed, there will be little danger of forgetting how to spell them. Apply this test to all spelling lessons; and the habit of right spelling with the pen will be formed and not forgotten.

A Capital Experiment—Try it.

"Willie, if you will not use that word more than five times before Christmas, I will give you a handsome present," said a gentleman to his son, in the hearing of the writer. "Had Willie been swearing?" some one may ask. No, he was not so bad as that, but he had said, "I can't," in a doleful whine, which would almost make one think him a poor, puny, good-for-nothing little boy. But you would not have thought that, had you seen his eyes sparkle when he heard his father's promise, and you would have been sure he meant to be a man, when he spoke up firmly "I'll *try*, father." And he is trying. We met him a day or two since and asked, "How many times have you lost?" "Only once," said he, cheerfully, "it came out before I thought." He already had a *habit* of saying "can't," which could not be easily broken at once. He is now learning to say "I'll try," when he comes to a hard place in his lessons, his work, or play, and when this becomes a habit, there will be few difficulties he can not overcome.—Here is an experiment for the young readers of the *American Agriculturist:* Keep a pencil and paper handy, and each time "can't" comes out, make a mark. Some of you will find the habit stronger than you think. It will be well also to mark how many times "can't" is stopped, and "try" used. See if *you* can do as well as Willie intends to, and have no more than five "can't" marks before Christmas.

BRIGHT IDEA.—A wag having heard the mythical story that Jupiter wounded his own head to let Minerva, the goddess of wisdom find her way out, suggested this as a reason why so many people have a habit of scratching their heads when puzzled for an idea.

EQUALITY.—"Come, don't be timid," said a couple of silly young fops to two mechanics; "sit down and make yourselves our equals."—"We should have to blow our brains out to do that," was the tart, perhaps truthful reply.

A Little Comical Nonsense.

A laugh may occasionally be enjoyed by reading right across the columns of a newspaper; subjects get mixed up sometimes in a very comical manner. Here is a specimen:—"Auction: There will be sold this day, in front of Josiah B. King's store, at ten o'clock, A. M., one horse, one harness, and another horse—Also, at the same time and place—Wanted, a wet nurse, inquire at the—Packing-house of Murray and King, where all kinds of—Perfumery are sold and—Sausages—Made to order and warranted to fit, or no sale.—If the young gentleman who signs himself Matrimony will inquire at—The poor-house is undergoing thorough repairs, and will be soon ready for—We are satisfied the Republican majority will not be—Over ten bushels to the acre, which has no doubt been caused by the inclemency of—General McClellan's removal will no doubt cause a great flutter among the—Prairie chickens are said to be more plenty this year than they have been for—Six thousand years, we are told, is the age of this world of ours; but geologists inform us that—We are selling coal at three dollars and fifty cents per ton delivered—To our address, enclosing a postage stamp—We should like to know when our authorities will remove those—Choice sugars—At thirty cents per yard, also—Five large bull pups, etc."

A CURIOUS THOUGHT.—A little boy sitting near a window where the sun shone brightly, eating bread and milk, suddenly called out, "Oh mother, I'm full of glory! for I have swallowed a whole spoonful of sunshine."

Answers to Problems and Puzzles.

The following are answers to the puzzles, etc., in the October number, page 298. No. 100. *Illustrated Rebus. S (penned) knot w hen u m a's pears pear knot w hen u m a's (penned)*; or Spend not when you may spare, spare not when you may spend. No. 101. *Geographical Questions.*—1, *five*; 2, *three*; 3, *Texas*; 4, *three*; 5, *North Carolina* and *Mississippi*. No. 102. *Transposed Poetry*, it reads: "The treasures we prize must be hard to be won; What is easy to get, we fastidiously shun." No. 102. *Mathematical Problem.*—A, 52½; B, 57 27-29ths; C, 44 4-19ths; D, 280; A, B, C, and D. 16 days. No. 104. *Illustrated Rebus.*—*X* 10 *d a red e hand too tu e re tea urn in g pen i tent*; or, extend a ready hand to the returning penitent. The following have sent in correct answers up to Oct. 17th: Salome Ruffner Carpenter, 100, 104; E. Prevost, 102; Lewis M. Gray, 100, 104; John Jefferson Schram, 102; S. L. Levan, 102; Annie Matthews, 100, 104; Wm. Weagy, 102; J. G. Bunnell, 96, 98; "School-Girl," 102; J. Peabody, 102; Elma M. Taber, 102; Euretta Coulter, 102; Edward P. Harnish, 100, 102, 104; Willie English, 103; Frank B. Bourne, 101, 102; Fred. E. Parker, 102; "A. T.," 101; Charlie, Gilbert, Stella and Affa, 102, 104; Charles C. Bishop, 101, 102; C. Arthur Totten, 104; Hattie A. Goffee, 102.

New Puzzles to be Answered.

No. 105. *Illustrated Proverb.*—One often applicable.

No. 106. A card three inches square may be cut in such a manner that a man may pass through it. This is no mere catch of words, but a literal fact. Please find out and explain in what manner it may be done.

No. 107. Arrange eight pieces of paper the size and form of *b* in the engraving, and two pieces like *a*, to make a perfect square. The pieces may be easily cut by first marking them on paper laid over the pattern. This will be much better than to spoil a page of the *Agriculturist* by cutting out the diagram.

(Business Notices, $1.25 Cents per Line of Space.)

U. S. 7-30 LOAN.

The Secretary of the Treasury gives notice that subscriptions will be received for Coupon Treasury Notes payable three years from Aug. 15th, 1864, with semi-annual interest at the rate of seven and three-tenths per cent. per annum,—principal and interest both to be paid in lawful money.

These notes will be convertible at the option of the holder at maturity, into six per cent. gold bearing bonds, payable not less than five nor more than twenty years from their date, as the Government may elect. They will be issued in denominations of $50, $100, $500, $1,000 and $5,000, and all subscriptions must be for fifty dollars or some multiple of fifty dollars.

As the notes draw interest from August 15, persons making deposits subsequent to that date must pay the interest accrued from date of note to date of deposit.

SUBSCRIPTIONS WILL BE RECEIVED by the Treasurer of the United States, at Washington, by all National Banks which are depositaries of public money, and

ALL RESPECTABLE BANKS AND BANKERS

throughout the country will give further information and AFFORD EVERY FACILITY TO SUBSCRIBERS.

Fort Edward Institute.

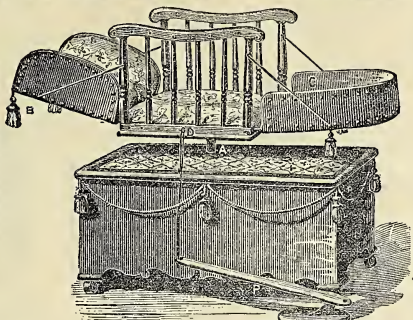
Winter Term December 8th, $107 pays for remaining two thirds of Academic year, for Board, furnished room, fuel, washing, and common English. For 10 years past the best sustained Boarding Seminary in the State. A liberal course of Studies for Ladies as well as Gentlemen. Good classes graduate each year. All the facilities of the best Commercial Colleges for $25. Diplomas awarded. Large numbers of young men pursue Classical and other solid studies preparatory to College or to Professional life. Oratory, Music, and Painting are prominent. For full explanation see Catalogue.

Address JOSEPH E. KING, D.D., Fort Edward, N. Y.

CORN HARVESTER—TO CAPITALISTS.—The undersigned will sell the Patent of a Corn Harvester granted last July, either in whole or in part, or engage with a Capitalist to manufacture. Working machine can be seen. Address B. M. FOWLER, 126 2d Place, Brooklyn, N. Y.

BROWN'S BABY TENDER AS A CRADLE.

IT IS READILY CHANGED TO
NINE USEFUL ARTICLES.
See advertisement on page 325.



'THE BABY TENDER.—The best of all inventions for lessening the labor and anxiety of mothers, and promoting the health and happiness of her offspring. We do not speak from hearsay when we aver that, of all labor-saving, health-preserving, sleep-persuading, quiet-restoring contrivances for the use of mothers and children, BROWN'S BABY TENDER stands unrivaled. For more than two years we have witnessed *in our own family* its practical advantages, and we feel that we are doing many of our readers a favor by calling their attention to it. The Baby Tender *ought* to be in every house where there is a baby."—*N. Y. Independent.*

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Published monthly, and forming a handsomely illustrated annual volume of 400 royal octavo pages.

Two DOLLARS a year, Twenty cents per number. Volumes for 1863 & 1864, bound, and numbers for 1865, FIVE DOLLARS. Volumes for 1860, '61, '62, '63 & 64, bound, and numbers for 1865, TWELVE DOLLARS. Address
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And ranks highest on account of the elasticity, permanence, beauty, and general desirableness of the stitching when done, and the wide range of its application.—*Report of American Institute, New-York.*

THE GREAT Fair of the New England States, held at Springfield, September 6 to 9, awarded the highest Premium to "WILCOX & GIBBS" for the "BEST FAMILY SEWING MACHINE."

THE VERMONT STATE FAIR, held at White River Junction, September 13 to 16, awarded the highest Premium to "WILCOX & GIBBS," New York, for the "BEST FAMILY SEWING MACHINE."

The Pennsylvania State Fair, held at Easton September 27 to 30, awarded the highest Premium (Silver Medal) to "WILCOX & GIBBS," New York, for the "BEST SEWING MACHINE."

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THE ONLY AUTHENTIC
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SPLENDID MILITARY PORTRAITS,
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Lieut. Gen. U. S. GRANT,
From a photograph taken by the Government artist, of which Mrs. Grant says—"It seems to me *perfect.* I do not see how it can be improved."

II.

Maj. Gen. W. T. SHERMAN,
From a photograph by the Government artist, of which Mrs. Sherman says—"My father, brother, and all our friends here think yours *by far the best* likeness, and the best picture published—they consider it *perfect.*"

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Maj. Gen. G. B. McCLELLAN,
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PRINDLE'S Agricultural Caldron & Steam Boiler is the only **Practical, Safe, Cheap** and **Simple** apparatus of the kind in the world. Hundreds have already been sold, and attested in all parts of the U. S. It Steams, Cooks, Boils, Heats, Distils, &c., everything, for everybody, and in large or small quantities. All classes use them. No Farmer can afford to be without one. Four sizes now ready for the trade, No. 2, common size, $70.

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DUCKS.—The subscriber has very fine Aylesbury and Rouen Ducks, from imported stock. The first premium has been awarded them by the Westchester Co. Agricultural Society, whenever exhibited, viz.: in 1861, '62 & '64. Usual weight when in condition, 12 to 15 lbs. per pair. Drakes $10; Ducks $5. JOHN COX, Mamaroneck, N. Y.

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New, useful, and attractive colored
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Nota Bene.—For Terms, Price List, &c., see Business Notices in the Agriculturist for September and October.

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Demorest's Illustrated Monthly, and Mme. DEMOREST'S MIRROR OF FASHIONS. Do not fail to get a specimen of this splendid and useful Magazine. See advertisement elsewhere.

SITUATION WANTED as gardener by an experienced German vegetable and flower gardener. Single. Address GUSTAVE SCHNEIDER, 528 Pearl-st., New-York.

Exhibition Tables at the Office of the American Agriculturist.

The following articles have been placed on our tables for exhibition since our last report:

FRUITS—*Grapes.*—Clara and Allen's Hybrid, shown by George W. Martin, Brooklyn, E. D., L. I....Delaware; B. H. Mace, Newburg, N. Y. .....Isabella and Catawba, good; John Cole, Tompkinsville, N. Y. ..... Catawba; Wm. H. Frey, Jersey City....Concord; J. W. Staples, Newburg, N. Y.....Clinton; Jas Partridge, Brooklyn, N. Y.....Isabella; Joshua Hasslacher, Brooklyn, N. Y.....Syrian, superior cluster; B. Hufnagel, Mt. Vernon, N. Y.....Adirondac; Fleming and Davidson, 67 Nassau st., N. Y.....Isabella; C. H. Rogers, Stormville, N. Y.....Concord, Delaware, Diana, Elsingburg, Hartford Prolific, Creveling, Union Village, Herbemont, Logan, Canby's August, To-Kalon, Cuyahoga, Rebecca, Anna, Taylor, Catawba, Isabella, Alvey, Mary Ann, Oporto and Perkins: Rev. J. Knox, Pittsburg, Pa..... *Apples*—Wesehester Pound; Robert Hoe, N. Y...Sound specimen gathered in 1863; Dr. N. Freeman, West Farms, N. Y.....Gloria Mundi; S. C. Dortic, Yonkers, N. Y.... Seedling; S. W. Benedict, Rossville, N. Y... Fall Pippin and Baldwin; Wm. H. Grant, Red Bank, N. J.....Gloria Mundi; Wm. J. Davison, Yonkers, N. Y.....Rhode Island Greening and Fall Pippin; J. S. Demarest, Cresskill, N. Y.....Beauty of Kent, William F. Heins, Woodstock, N. Y.....Duchesse; C. H. Rogers, Stormville, N. Y.....Gravenstein; G. W. Harman, Bennington, Vt.....*Pears:* Bartlett; Wm. Graham, Harlem, N. Y.....2 Beurre Diel, weighing 22½ oz. and 19½ oz.; Wm. Chorlton....Duchesse, superior specimen; A. R. Chambers, Trenton, N. J.....Seckel; J. S Manning, New Brunswick, N. J.—Beurre Bosc; Sheldon and Van Mons Leon le Clerc; Nathaniel Halloek, Milton, N. Y.....Louise Bonne de Jersey and Onondaga; Mrs. Martha T. Ketcham, Milton, N. Y....Seckel, extra; C. P. Crockett, Newark, N. J....Vicar of Winkfield, very full branch; Abner Mills, Rye, N. Y.....Flemish Beauty, excellent; Franeis Donelly, New Haven, Conn. ....Beurre Clairgeau, Duehess, Vicar of Winkfield, and Easter Beurre; T. B. Wakeman, Westport, Ct.... Collection of varieties; J. Van Brunt, Bay Ridge, N. Y....Selleck and Onondaga; G. W. Harman, Benningtion, Vt.....*Peaches:* Two splendid branches of fruit; Dr. A. Virmond, Brooklyn, N. Y....Seedling; Wm. Walker, Deer Park, N. Y....Two from young orchard; N. O. Randall, Yaphank, N. Y....Crawford's Late; Mr. Martin, Brooklyn, N. Y....Shandank, 9½ oz.; D. B. Schenck, Brooklyn, N. Y.....Crawford's Late, beautiful cluster; H. M. Traphagen, Jersey City....Double specimen; E. Marshall, Poughkeepsie, N. Y.

FLOWERS.—Splendid Bouquets of flowers and dried grasses (as usual) from Miss M. A. Cortelyou, Westfield, N. Y....Dahlia, curious; Wm. E. Hartwig, New York City.....Beautiful Double Zinnias: Isaac Buehanan, Florist, New York City .....Splendid Dahlias, Daphne Cneorum, and Fine Seedling Rose; A. G. Burgess, East New York, N. Y....Dahlias; C. S. Pell, New York Orphan Asylum....Asters; C. Asmus & Son, West Hoboken, N. J....Dahlias; Mrs. Jane Wise, Cresco, N. Y.

VEGETABLES, ETC.—*Potatoes:* Sweet potatoes, 1 hill, (4 lbs.); E. P. Tysea, Southfield, N. Y..White Meteer, Prince Albert, Garnet Chili, White Peach Blow; D. Demarest & Son, Newark, N. J ...German Sugar; B. Hufnagle, Mt. Vernon, N. Y.....*Miscellaneous Vegetables:* Monster Purple Egg Plant, 9 lbs: Deaf and Dumb Institution, N. Y....East India Gherkins; C. A. Asmus & Son, North Bergen, N. J....Mammoth Tomatoes; H. L. Ayres, New Canaan, Conn. ..White Spine Cucumber; Wm. Willkom, New Utrecht, N. Y....Large Red, Early Red, Lester's Perfected and Fejee Tomatoes, Reisig & Hexamer, Newcastle, N. Y....Mammoth; L. A. Burt, Fremont, N. Y., and Wm. A. Clark, (wt, 2 lbs. 9 oz.) Westville, Conn.....Red Blood Beet, largest; F. A. Leggett, New York City.....Yokohama Squash, (14 lbs.); Charles S. Coxhead, Fort Lee, N. J.....Large Blood Beet; J. Bryant, Flushing, N. Y.....Fine Purple Egg Plant; D. W. C. Morris, Bergen Point, N. J.

MISCELLANEOUS.—Michigan Rosin, from White Pine; J. D. Sturtevant, Mearo, Mich.....Horse Chestnuts, —, Flushing, N. Y....Fig in fruit, from slip planted Oct. 25, 1863; Wm. Willcom, New Utrecht, N. Y.....Branch of Chestnut Tree; C. E. Wheeler, Orange, N. J....Large Sunflowers; C. P. Snedeker, Nyack, N. Y. and "W. C. W." Long Island....Superior Chestnuts; E. S. Lamoreux, Basking Ridge, N. J....Buckeye Chestnut; Wm. Churchill, New York City....Growing Tobacco Plants; W. M. Baldwin, Clinton, N. J.

Advertisements.

Advertisements, to be sure of insertion, must be received BEFORE the 10th of the preceding month.

N. B.—*No Advertisement of Patent Medicines or secret remedies desired. Parties unknown to the Editors personally or by reputation, are requested to furnish good references. We desire to be sure that advertisers will do what they promise to do. By living up to these requirements, we aim to make the advertising pages valuable not only to the readers, but to the advertisers themselves.*

TERMS— (cash before insertion):

One Dollar per line, (14 lines in an inch), for each insertion.
One half column (74 lines), $65 each insertion.
One whole column (148 lines), $120 each insertion.
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"I require that the grapes competing for this prize (of one hundred dollars) shall ripen earlier than Catawba, Isabella, and Diana. The flesh must be *melting and tender quite to the center*. The flavor must be pure, rich, vinous and exhilarating. The berries must be at least of good medium size, and not liable to fall from the stem when ripe. The vine must be healthy, productive, of good habit of growth for training in yards and gardens, as well as in vineyards, with leaves as hardy and well adapted to our climate as those of the Delaware.

"In short, what is sought is a vine that embodies the *best qualities* of the most approved *American* and *Foreign* varieties, so far as possible."

It will be seen that these requirements are very high. How the IONA meets them, and the opinions of the Committee on the subject, are matters of interest to all lovers of good grapes.

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For a pamphlet of sixteen pages, fully answering all of the questions that the lovers of good grapes would ask, concerning the award and the opinions of various Committees before whom the Iona and Israella have been judged, and all questions pertaining to the new kinds, and how, when and where to get them.

It contains a very valuable chapter by Mr. Mead, extracted by permission from his book in advance of publication, clearly analyzing the qualities of the different kinds of most importance, showing plainly

WHAT KINDS TO PLANT, AND THE WHEREFORE.

For those who wish to get vines at wholesale rates, with premium in addition, propositions for the FORMATION OF CLUBS have been prepared, which are also sent FOR A STAMP.

To obtain the best and cheapest vines of these new kinds, early application is necessary, for the orders are already numerous and large. C. W. GRANT, Iona,
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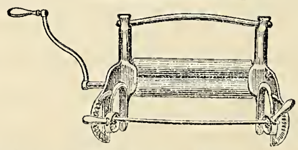

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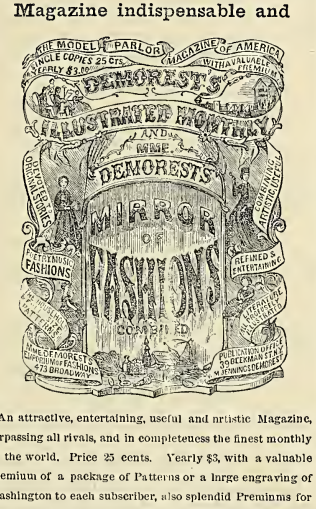

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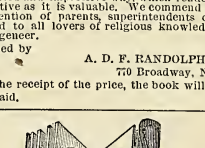

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FLAX AND HEMP DRESSERS

are no longer an experiment. Over 200 No. 1 Brakes have been sold and are in

PRACTICAL USE.

A pamphlet will be sent free of charge by writing.

JOHN W. QUINCY, AGENT,
No. 98 William-st., New-York.

TESTIMONIALS.

GREENWICH, Washington County, N. Y., April 11th, 1864.

Messrs. Mallory and Sanford:

GENTS,—You request a certificate from me in regard to your Brake, but in view of what I have written before, I hardly know what to write, as I have seen nothing to alter my mind, since my last, in regard to the working of your Brake, only, I have learned that they will do more work than we formerly estimated. I think they are capable of breaking from twenty-five to thirty hundred of straw in ten hours. In regard to the safety of your Brake, I think that feature a sufficient recommend over the old Brake. There have been two arms taken off by the old-fashioned Brake in this County this winter, in addition to some ten or twelve before. One was taken off in Hiram Darrow's mill, in Cambridge, and one in Slocum's mill, Granville.

Yours truly, ENOS DURHAM,
H WILCOX.

KIDDER'S FERRY, Seneca County, N. Y., April 12th, 1864.

John W. Quiney, Treas. of M. & S. F. and H. Machine Co.:

DEAR SIR,—I have been using Messrs. Sanford & Mallory's Brakes ever since I have been in the flax business, 1862. I first bought one of their No. 1 Brakes, 2 sets of rollers which did its work well, and accomplished all it was recommended to do, with great saving of material and labor. On seeing their improved screw motion, four set roller Brake (intended more especially for tangled straw), at the Utica State Fair, I purchased it, and must say, it is THE BRAKE, and would recommend it to all who wish to embark in the flax business. I have seen a number of machines of the old fashion, but find none, as yet, to compare with theirs.

Yours, &c., H. C. TRACY.

BALSTON SPA, N. Y., April 13th, 1864.

Messrs. Mallory and Sanford:

We take pleasure in assuring you that we have tested your Brake thoroughly for the past five months, and are fully satisfied that it will do all you claim for it. It saves flure, and, our men say, time, in scutching. We are of opinion, that there is no machine equal to the Sanford & Mallory machine for the dressing of flax.

Very respectfully, ALLISON & ESMOND.

MOUNT GILEAD, Morrow County, Ohio, April 15th, 1864.

Messrs. Mallory and Sanford:

GENTLEMEN,—You requested my opinion of your Brake—I can tell you in few words. It works first-rate, thus far—have run it three months, and has not cost a cent for breakage or repairs. I think if you can run fifteen hundred pounds of straw a day through it, on an average, you are doing well. Two good hands will scutch as much as it will run through, and it will keep them all busy enough. I think the machine costs more than it should, although it will pay for itself on dressing one hundred acres, in saving of lint. The tow is also much better than from the old Brake. I think the greatest advantage consists in working stock, rotted and over rotted straw—it leaves the stock in better condition for the knives to act upon—that is, finer broken. If you love truth, this statement will please you.

Yours truly, DAVENPORT ROGERS.

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HORSE AND HAND POWER

HAY AND COTTON PRESSES.

These machines have been tested in the most thorough manner throughout this and foreign countries to the number of over 1200.

THE HORSE POWER is worked by either wheel or capstan, and in many respects possesses unequalled advantages. We invite those wanting such machines to write for a catalogue containing full information with cuts, prices, &c., or call and examine personally.

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The Art of Saw-Filing.

The Art of Saw-Filing scientifically treated and explained on philosophical principles, with full and explicit directions for putting in order all kinds of saws, from a Jeweller's saw, to a steam saw-mill—illustrated with 44 wood engravings. 1 vol. 18 mo. Cloth, 60 cents.

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Millstone Dressing Diamonds

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Hot Water Furnaces

for Warming Green-houses, Conservatories, Graperies, &c.

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HARDY FLOWERING BULBS,

FOR FALL OF 1864.

MY **ILLUSTRATED ANNUAL CATALOGUE** of HARDY DUTCH and other Flowering Bulbs, and

Guide to the Flower Garden,

is now ready to send ont. It consists of full and plain descriptions of the best

Hyacinths, Tulips, Crocuses, Snow Drops,

Crown Imperials, Anemones, Lilies, &c., &c.,

with ample directions for planting and citture. My Catalogue this season is beautifully illustrated, coutaining among other illustrations two full page engravings, and one beautiful colored plate of the

JAPAN LILY.

It is sent free of postage to all who apply, inciosing ten cents. Catalogues always sent to my customers of the previous year, free, as soon as issued, without being ordered.

My importations from Holland the present year have never been equalled for extent, variety and excellence.

Address **JAMES VICK,**
Rochester, N. Y.

REID'S NURSERIES,

Elizabeth, New Jersey.

DAVID D. BUCHANAN, Supt.

Offers for sale this fall, a fine stock of 1st quality of Fruit Trees of every description, especially Standard and Dwarf Pears, which are extra strong.

Ornamental and Evergreen Trees of all kinds. Shrubs, Grape Vines, &c., &c.

Our trees are very strong and vigorous, the wood has ripened well and they are in fine condition for fall planting or transportation.

Parties dealing with us can rely on having none but those of the first quality.

The Public are respectfully invited to call and examine our stock.

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Stephen Hoyt & Sons,

Offer a large stock of thrifty and well grown

FRUIT TREES,

consisting of Standard and Dwarf Apples, Pears, Cherries, Plums and Peaches, as well as the smaller

FRUITS AND GRAPE VINES.

They also invite attention to their large and fine stock of Evergreens and Deciduous Ornamental Trees.

Also a fine and large stock of two-year-old Apple and Sugar Maple seedlings. Catalogues sent to applicants.

STEPHEN HOYT & SONS,
August 13th, 1864. New Canaan, Conn.

C. RAOUX,

86 Cedar-st. New-York City.

Will receive and transmit to Europe, as usual, orders from American Nurserymen. Will, also, contract to import nursery stocks, at his cost and risk, and to deliver them safely at specified prices, times and places.—**For Sale.** A complete copy, 11 years, of the Flore des Serres et des Jardins de l'Europe. A few packages of Dutch bulbs and Flower roots, just received. Fresh Pear and Mahaleb seeds to arrive soon.

1864. Fruit Trees, &c. 1865.

A splendid stock of choice varieties for sale by
FRANCIS BRILL, Newark, N. J.

Catalogues gratis.

100,000 Apple and Peach Trees.—Warfel & Herr, invite the attention of Dealers and Fruit Growers to their large stock of Apple and Peach Trees. Their assortment embraces all varieties of known merit, and for size and vigorous growth are unsurpassed. Prices low. Catalogues furnished upon receipt of stamp. Strasburg, Lancaster Co., Pa.

APPLE SEED OF FIRST QUALITY, THE growth of 1864. Address
JAMES A. ROOT, Skaneateles, N. Y.

THE TRUE CAPE COD CRANBERRY for October planting, for Upland and garden culture, and for swamps. Under my method of cultivation the yield last season on Upland was over 400 bushels per acre. Explicit directions for cultivation with prices of plants, with nursery catalogue complete, will be sent to any address.
B. M. WATSON, Old Colony Nurseries, Plymouth, Mass.

100,000 NORWAY MAPLE, one year.
2,000 " " 8 to 12 feet.
For Sale low, by
J. A. LEWIS, Willimantic, Conn.

FOR THE BEST SELECTED STRAWBERries, Raspberries, and Blackberries, which yielded for me the past Summer over 1,500 bushels of Fruit, send for Catalogues gratis. WILLIAM PARRY,
Cinnaminson, Burlington Co., N. J.

IONA GRAPE

AND

"The Greeley Prizes."

The requirement, as will be seen by reading Mr. Greeley's proposition, is exceedingly high, being nothing less than for a grape of quality equal to the best European kinds, with a vine equaling in hardiness of leaf and constitution the most enduring of our native kinds, thus combining all of the good qualities of both, and avoiding the defects of each.

It will be seen that in the opinion of a Committee, as well qualified to judge as could have been selected, the *Iona* fully meets the requirements, and I believe all good judges who have had an opportunity to become well informed on the subject, fully and heartily concur in their decision.

Extract from the award of the Committee of American Institute, giving the prize of One Hundred Dollars to the Iona.

"So far as *trial* is concerned, the Iona is not a new grape. The Iona, during the past four or five years, has been grown in several parts of New-York, in Massachusetts, Connecticut, Pennsylvania, Delaware, New-Jersey, etc., and in all has proved to be early, a good and healthy grower, and of the best quality. Some of your Committee have seen it in a number of these places, and can confirm the favorable reports that have been made. Your chairman has had it some six years, and examined it under a variety of circumstances, and he fully concurs in the high opinion of his associates. In conclusion, the Committee are of opinion that the Iona is the only grape now before the public that meets the requirements of the "Greeley Prize," and they accordingly award it. All of which is respectfully submitted." [A copy.]

A few Testimonials from Reports.

From the Cleveland Plain Dealer on the great Grape and Wine Show. "There are new grapes on exhibition that are alone worth the fee to examine, and as the greatest acquisition is mentioned the IONA, of which samples of fruit were shown and tested. All agreed in pronouncing it a great acquisition of the highest quality. * * Next to this, Israella and Adirondac were discussed. * * Much depends upon the habit of the vine. Both were recommended for extensive trial, the sense of the Committee leaning in favor of the *Israella*."

From *American Agriculturist.* "Israella originated by C. W. Grant, very sweet, black, and ripening about the middle of August. It promises to take the lead as an early variety."

Ohio Grape Show. "One great leading feature of the Show was the exhibition of the new grapes, Iona, Adirondac and Israella, and another, the discussion of "Grapes," by the Ohio State Pomological Convention. The Hartford Prolific was only retained on account of its extreme earliness, and in this particular the Israella, a new seedling by Dr. C. W. Grant, at least equals it, and while it is in every other respect a superior grape, promises to be its rival. The famous new seedling grape, Iona, also raised by Dr. C. W. Grant, of Iona Island, N. Y., was pronounced best by every lover of good grapes, and we heard it predicted by many leading vineyardists, that when it shall have opportunity to become fully known, the *Iona* will be the leading American grape.

The Israella and Adirondac, both early black grapes, were carefully tested and compared by all present, at the time of the discussion. The fruit of each was highly commended wherever an early grape is desired, but that of the Israella, as shown here, received the most general expression of favor."—*N. Y. Tribune.*

The leading new sort, and which commands the universal admiration of all who have tested it, is the Iona. I repeat what I have before said, that it is the best American grape ever produced. It is saying a great deal to say that it is superior to the Delaware, but it is,—*Tribune's Report of New-York State Fair.*

"It is the best grape in America—at least on the Atlantic side."—*Solon Robinson's Report of New England Ag't Fair.*

Report of Committee on Grapes, at the great Cleveland Exhibition of Grapes and Wines:

"The premium was unanimously awarded to the Delaware. The contest between the Delaware and Iona was close, there being no diversity of opinion as to the excellent quality of the Iona, but the specimens before the Committee were not in first-rate condition in consequence of having been too long picked. The Committee most heartily commend the Iona as a very valuable acquisition, and the *best* grape of recent introduction."

The commendation of it by the Committee of the American Pomological Congress, was equally emphatic as to its surpassing excellence.

Extract from Mr. Mead's Book on the Grape, in advance of publication. Of Mead, more than any other Pomologist in America, has given special attention to the Grape, and his opinion is consequently most trustworthy and valuable.)

"For an early grape, the best I have had an opportunity of testing is the *Israella*. It ripens even before the Hartford Prolific, and is very much superior to it. Unlike the Hartford, it adheres firmly to the bunch, and will hang till frost. The color is a dark purple. The bunch and berry are large, and the flesh tender, juicy, and very sweet. It is a good grower, hardy, and productive. It is the best early table grape that I am acquainted with, and ranks higher than the Isabella.—Placing the Iona and Delaware side by side, we may well call them "*par nobile fratrum.*" They are pre-eminently the best of American grapes. They are equally good for the table; but I think I can foresee that the rich, concentrated juice of the Delaware may give that the first place as a grape for wine, while the superior size of the Iona will give it the pre-eminence for the table, and the *tenacity* with which its berries *adhere* together, remaining fresh and unshriveled, and its late-keeping qualities, give it peculiar advantages for the market. All judges seem loth to admit that so good a thing could have had a native origin.

But so it is; and I am fully persuaded that the native grape will yet be acknowledged to be as "pure and refined" as the foreign. I can clearly see the beginning of a "new dispensation."—PETER B. MEAD.

Of the numerous premiums and testimonials that have been awarded to its excellence, I need not speak here. One who has attended five of the principal exhibitions writes: "Of all these exhibitions, the Iona and Israella Grapes were the chief point of interest and attraction."

All of these testimonials are very gratifying to every lover of *good grapes*, and particularly so to the originator; but not more so than the earnest and enthusiastic commendations that are accorded to it, as if with one voice, by all who have had an opportunity to learn its goodness and value.

For answers to all questions that buyers or seekers for *good grapes* would wish to ask, send stamp for pamphlet of sixteen pages. It contains important matter.

C. W. GRANT,
Iona, near Peekskill, Westchester County, N. Y

DELAWARE VINES

AT

LOW PRICES.

PLANTERS who are forming Vineyards,

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NURSERYMEN who wish plants for stock,

will find it their interest to examine the one-year-old plants of

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Of which they offer

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At the following low prices:

No. 1. $25 00 per 100.—$200 00 per 1000.
No. 2. $15 00 per 100.—$125 00 per 1000.
$1000 00 per 10,000.
No. 3. $12 00 per 100.—$100 00 per 1000.
$750 00 per 10,000.

These plants are produced from cuttings of bearing vines.

None of them are propagated either by layering or grafting, and they are so grown as to ensure an abundance of fibrous roots and thoroughly ripened wood.

The testimony of those who have purchased them for the last two years is of the most favorable character.

In consequence of the low price, their stock of Delawares has for two years been bought up early in the autumn by a few persons. The proprietors wish them more widely scattered, and hope therefore, that those who desire to purchase, will send their orders early.

In consequence of the great difficulty in growing the Delaware the first year, nurserymen will find it their interest to purchase largely to plant for stock.

The Proprietors can also furnish

100,000

other **HARDY GRAPES,** including **Concord, Diana, Creveling, Iona, Allen's Hybrid, Adirondac,** and other new sorts.

REMONTANT ROSES

On their own roots, and not propagated by budding or grafting in any root, at $25 per 100.

Also all the best varieties of DWARF and STANDARD FRUIT TREES, and also a large collection of DECIDUOUS and EVERGREEN TREES, among which are some 200 varieties of CONIFERS. Catalogues furnished by mail.

Address

PARSONS & CO., Flushing, N. Y.

Adirondac Grape Vines.

1 year old, No. 1, very strong, $3; No. 2, strong, $2
2 " " No. 1, " $4

All cut back to 3 to 5 eyes. No inferior vines will be sent out by me. Purchasers can rely on the quality of my vines being thus assured. Will be forwarded in sealed boxes by express, without charge for boxes. Small orders will be securely packed and sent by mail, pre-paid, when so ordered.

The two great grape Exhibitions held last autumn in New-York and Cleveland, awarded to the Adirondac, the prize for the "BEST NATIVE GRAPE OF ANY KIND, QUALITY TO RULE." The discovery and introduction of the Adirondac grape is an event of the highest importance to grape growers, and the greatest advance yet attained in native grapes. Its peculiarities are, extreme earliness, large clusters and berries, tender and thin skin, melting without any perceptible pulp, and of the most delicate and delicious flavor, reminding one of that splendid Hot-house grape the "Black Hamburg." Also first class vines of the following varieties, at the lowest rates, viz.: Allen's Hybrid, Creveling, Concord, Cuyahoga, Delaware, Diana, Hartford Prolific, Iona, Israella, Maxatawney, Northern Muscadine, Ontario, Rodgers' Hybrid, Nos. 1, 2, 3, 15, 19, To Kalon, Sherman, Yeddo. Liberal discount to Nurserymen and Dealers. Price lists and trade circulars forwarded on application. JOHN W. BAILEY.

August, 1864, Plattsburgh, Clinton Co., N. Y.

Messrs. FLEMING & DAVIDSON, are my authorized agents for New York City.

Wanted.

Pits of **Horse Plum, Mazzard** and **Mahaleb Cherry, Natural Peach** and Seeds of American Evergreen and Ornamental Trees. Also a few thousand **Stocks** and **Seedlings.** Address with quantity and lowest price
FRANCIS BRILL, Newark, New-Jersey.

Ammoniated Pacific Guano.

A real guano, containing from seventy to eighty per cent of Phosphate of Lime; to which has been added by a chemical process, a large percentage of actual Ammonia, so fixed that it can not evaporate, making it equal, if not superior, to any other fertilizer. Price $80 per nett ton. A liberal discount to the Trade.

Pamphlets with copies of analysis by Dr. Jackson, Mass. State Assayer, and Dr. Liebig, of Baltimore, and testimonials from scientific agriculturalists, showing its value, can be obtained from J. O. BAKER & CO., Selling Agents
131 Pearl-st., New-York.

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A BAKER'S DOZEN.—(11 for 12.)

NEW subscribers for 1865, received this month (November), can have the paper for November and December of this year also, by enclosing 10 cents extra—that is, $1.10 for fourteen months Terms advanced after Dec. 1st.

N. B.—Terms Advanced.

For all subscriptions received *on and after Dec.* 1st, the price of the English edition of the *American Agriculturist* will be $1 50 a year; four copies for $5 00; ten copies for $12 00; twenty or more copies for $1 00 each. This small advance, though long struggled against, has become absolutely necessary, by reason of the continued high price of labor, printing paper, and other materials, if, as we must do, we maintain the full size of the paper, and keep up its progressive character. As this notice will not become generally disseminated before the first of December, all subscriptions received previous to that date, will be taken at the former rate of $1 a year. The present price of the *German Edition* is $2 a year; four copies for $7; six copies $10: ten or more copies, $1.50 each.

Further Continuation of

The Five Dollar Premium.

Any person sending twenty subscribers, will be presented with **One Dozen** of the Great "Agriculturist Strawberry" Plants, if desired, to be forwarded free next Spring, unless specially preferred now. In addition to the dozen to the getter up of the Club, the subscribers can each have their own plants, if the application and the extra 5 cents each be sent along with the subscription, as noted under "Plants Free to Subscribers."

Flax and Hop Culture,—$200 Offered for Practical Information.

There is now a great demand for practical information upon the culture of Flax and Hops, and we know of no books that give just the instruction needed. In order to call out the desired information the Publisher of the *American Agriculturist* offers the following cash prizes:

FLAX CULTURE.

For the Best Essay, as described below.....**$50 00.**
For the second best do. do. ..... **25 00.**
For the next best *five* Essays, ($10 each)..... **50 00.**

The essays should not exceed 20 pages of foolscap each, and should be written on one side of the paper only.

HOP CULTURE.

For the Best Essay, as described below.....**$40 00.**
For the second best do. do. ..... **20 00.**
For the third best do. do. ..... **15 00.**

The essays should not exceed 15 pages of foolscap each, and should be written on one side of the paper only.

The maximum number of pages is given above. Those essays will be considered best which give the greatest amount of information, clearly expressed, in the smallest space, including all necessary items from preparing the ground to marketing the crop, in short, such information as is desirable for novices in the business. The pamphlets on tobacco and onion culture, published at this office, will indicate what is wanted. The essays will be illustrated by engravings as fully as can be desired, if drawings or sufficiently clear explanations be furnished.

The Essays must be received at the Office of the *American Agriculturist* before the 15th day of January, 1865; the name and Post Office address of the writer to accompany each in a sealed envelope. They must be written by practical men. Good information from experienced men will be considered of more value than mere literary style, which, if necessary, can be amended by the editors. All manuscripts offered will be considered the property of the publisher, one or more to be printed in the *Amer. Agriculturist*, and if desirable, in a book or pamphlet form. If used in the latter way, half a dozen copies of the publication will be presented to the writer of each essay contained therein. The essays will be submitted for careful examination and for the award of prizes, to the best Committee of practical men that can be obtained.

What Books?—Answers by letter can not be given to the many who inquire what books we recommend on this and that subject. In the list on page 326, the number of stars indicate our opinion of comparative value. The American Farmers' Cyclopedia contains a great variety of topics. American Weeds and Useful Plants is a valuable work for those who will study it—as every one should. Barry's Fruit Garden is excellent. Bridgeman's works are good. Fuller's Grape Culturist is the best work on the subject, and so is Herbert's Hints to Horsekeepers. Langstroth's and Quinby's Bee books differ a good deal in the kind of information given, but both are good, and both should be owned and read by all who keep bees—and more persons should keep them. The National Almanac is a valuable work for reference and statistical figures. Dadd's large Illustrated work on the Horse, with colored plates, is a fine volume. Thaer's Agriculture is well worth studying. Youatt & Martin on the Horse is a standard book. Many other starree books, equally good, may well adorn every table or library, and be read and studied also, if obtainable. See p. 311.

Strawberry Plants Free to Subscribers.

As stated elsewhere, (page 311,) we have reserved 40,000 of the great *Agriculturist Strawberry* plants, to be distributed among subscribers, at the opening of spring where it is too late to send them this fall. The applications will be entered in the order of reception, and be filled in that order as soon as the spring weather permits. As present subscribers are mostly supplied, these plants are specially designed for *new* subscribers for next volume, after re-supplying the few whose plants failed this year, through error or loss by mail; but with or without these, the plants will almost always go safely by mail. ☞ We can have *only* 40,000 plants for premiums and distribution in spring. When these are gone, no further distribution can be made before next September, when previous applications, above the 40,000, will be filled.

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Please to Note Well the Following:

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American Agriculturist.

For the Farm, Garden, and Household.

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ORANGE JUDD, 41 Park-Row, New-York City.

AMERICAN AGRICULTURIST,

FOR THE

Farm, Garden, and Household.

"AGRICULTURE IS THE MOST HEALTHFUL, MOST USEFUL, AND MOST NOBLE EMPLOYMENT OF MAN."—WASHINGTON.

ORANGE JUDD, A.M., PUBLISHER AND PROPRIETOR. Office, 41 Park Row, (Times Buildings.)

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Notes and Suggestions for the Month.

Capricornus (represented by the Rocky Mountain *goat*) is the "Zodiacal sign" for December. The labors of this month are confined, so far as concerns proper farm operations, chiefly to the barn and stock yards. There is, however, no lack of employment, for the old year's affairs should all be squared up and full preparations made for beginning the new year aright.

Accounts.—There is no more important task for a farmer or any other individual to set himself about, than learning exactly how he stands in his pecuniary relations to the world in general. All values which may be represented by dollars and cents should be included in taking the account of stock. Estimates should be made as low as can be done with fairness when in one's own favor, and when not favorable be put up to the highest figure they will bear. Whenever practicable, close up running accounts, pay debts, and if possible do henceforth a *cash* business.

Buildings.—Observe hints for previous months. Be tidy in all things, especially about the house and barns. During the winter study plans for improvements in buildings, or for new ones. In making plans for buildings it is well for several persons to draw them entirely independently of one another, after discussing the different requirements thoroughly together, so that each may know what is to be included in the plan.

Cattle.—Keep clean, use the brush or card frequently, shelter all kinds of neat stock. Keep no more than can be kept well, and be taken through in good order for work, for milking, or for growth; every pound lost must be regained before one gets much profit from his stock.

Cranberries.—Let water on whenever this is practicable and keep them submerged all winter.

Draining.—So long as the ground is not frozen hard and is dry this work may be continued.

Farmers' Clubs.—Do not forego the benefits of a good club, if your own efforts will aid effectually in keeping one up in the neighborhood.

Fencing Stuff, etc.—Begin early and get out all that will be needed, and pile it up for seasoning.

Fodder.—See articles on the philosophy of feeding in the present number. Economize fodder of all kinds by cutting it up, soaking or cooking it in some way, and by sheltering the animals. Feed nothing on the ground, but have good racks, or at least some contrivance to keep it from being trampled upon and wasted.

Grain Fields.—Look to the surface draining before the ground freezes up hard, otherwise there may be serious damage done by washing during heavy rains or thaws. Wet soil heaves most in freezing. Keep cattle off and fences up.

Hogs.—See articles on slaughtering, page 338. Give hogs a chance to keep clean. Feed and shelter so as to keep them constantly growing.

Horses.—Look to the shoeing. Never drive a smooth shod horse in slippery weather. Keep horses of all ages well groomed, in light, well ventilated stables. Blanket whenever heated by work or standing exposed to drafts, not usually when standing in the stable. Too warm blanketing in the stable is a frequent cause of disease.

Ice.—The first thick ice is usually the best. It will pay to clear off the snow from spots on private ponds so that the pure ice, free from snow, may be obtained. Good ice may often be cut by Christmas time. Get it in on cold days.

Manure and Muck.—See article on page 336. Muck may be dug to advantage during the early winter and laid in heaps to freeze—moving it to solid ground while the swamp is frozen.

Poultry.—Look at the prices of eggs and chickens in our market tables, and see if it will not pay to provide a hennery where fowls will lay in winter. See pages 335 and 337.

Roots.—Keep frost from root cellars by extra earthing up if necessary, and give additional protection to the pits—preserving ventilation.

Sheep.—The keeping of sheep—especially fine wool sheep—has become almost a mania in some parts of this country. Take notice that the coarse grades of wool bring, proportionally, far higher prices—in some cases absolutely higher than fine wool, and that neither wool nor mutton brings prices proportionate to the rise in price of gold. There is great profit in sheep raising, and the American Merinos are excellent. So are South-downs and the Long-wools where the circumstances are adapted to them. Feed under good warm sheds, in racks, and let the sheep do their own cutting up of the fodder and grinding the corn. See that water is always accessible, and keep salt before them.

Tools.—Look out early for new implements of the best kind, and keep all in good repair.

Wood.—The early winter should see work laid out in the wood lot, to fill the time when nothing else in on hand. Timber may be cut and sledded, or that hewn and hauled in which was best cut early in the autumn and seasoned.

Work in the Orchard and Nursery.

Out door work is confined to a few operations and the horticultural calendar is of necessity brief. The nurseryman can now be preparing for his spring sales. Trees temporarily heeled in should have their roots well covered. Those who intend purchasing trees for planting in spring should send orders early, as in all well regulated establishments they are filled in rotation, and the earliest orders are soonest put up.

Cions.—Cut during mild weather, handle carefully, and preserve in damp sand or earth.

Fruit.—Late sorts are to be kept as cool as possible. Remove to the cellar only when there is danger of freezing. Look over specimens ripening in the fruit room, and remove those coming in eating to a warm room to ripen up.

Cutting Back.—Young nursery stock will need to be cut back and brought into shape. See p. 345.

Manure and Mulch.—The manuring of trees may be done any time up to early spring. Give a good coat of coarse manure as far out as the branches extend. It has been suggested that peach trees may be kept back late enough to avoid spring frosts, by giving a heavy mulch on the roots after the ground is well frozen.

Mice and Rabbits.—These often destroy young trees, especially when there is a light snow for them to work under. Tramp the snow firmly about the trunks. Shields of tin or sheet iron, stiff paper, or cloth, have been recommended. It is said that rubbing with fat pork, or any other animal fat, will prevent rabbits from gnawing the bark. Traps and shot guns are helps.

Preparing the Soil.—Drain where needed, whenever the weather allows. Plow deeply. Make holes for trees in prepared soil deeply worked.

Root Grafting.—This can be done in-doors. See page 344; and also page 20 (last January).

Work in the Kitchen Garden.

The clearing up should have been done before, but if there are still rubbish, poles, stakes, or anything in the garden that interferes with its neat look, put it in its place. In mild weather plow deep and expose the soil to the action of frost. Ridge stiff soils as directed last month.

Asparagus.—If the beds have not been already covered, give a thick blanket of stable manure.

Celery.—Harvest any remaining out, as directed in Oct. Calendar, or cover the trenches well.

Cold Frames.—Give as much air as possible on mild days, and cover the sash with mats or shutters at night. Keep the mice out.

Compost.—The heaps should increase rapidly

during winter. Have muck at hand to absorb the liquid in the privy, barn-yard and piggery. Coal ashes are advantageously added to stiff soils.

Hot-beds.—The repairing of frames, glazing of sash and the building of new ones give employment for rainy days.

Parsnips and Salsify.—Dry for use whenever the ground is open, and use that in the cellars in bad weather.

Rhubarb.—Heavy manuring is the secret of heavy stalks. Put on plenty of manure if not done already.

Seeds.—See that everything is properly put up. Seeds will "mix" in the seed box, especially if there are holes in the papers. Put name and date on every parcel and throw away everything about which there is any doubt. Exchange with neighbors and distribute liberally any good or new variety through your Farmers' Club.

Tools.—Do not wait until they are wanted before putting in order. Take to the blacksmiths all that can be repaired by him. Do the wood-work yourself. Oil or paint all wooden parts. Mark everything with your name or initials. Give iron or steel, which is to have a long rest, a coat of beeswax and lard to prevent rusting. If there is no tool-house, build one, or partition off a place in the barn or shed, and have a place for every thing.

Flower Garden and Lawn.—But little needs to be added now to the directions given last month. Protect all tender plants. After a fall of snow, see that evergreens and dense clumps of shrubbery are not injured. Top-dress lawns, make walks and lay out borders whenever the weather will allow. All plants in frames and pits need air on mild days, and careful covering with mats or shutters during cold days and nights.

Green and Hot-Houses.—The directions last month for temperature, moisture and ventilation, apply during the variable weather of the present month. On damp and foggy days, fire should be put in the green-house, even if the temperature is not too low.

Bulbs brought from the green-house to a warmer apartment, a few pots at a time, will keep up a succession of bloom. Syringe the foliage of Camellias and other thick-leaved plants. Continue the fight against insects as directed for house plants on page 346. Start cuttings, and stimulate lagging plants with weak liquid manure.

Cold Grapery.—Prune vines and prepare them for their winter sleep. Chorlton, in his Grape-Grower's Guide, recommends covering the canes with the following mixture, to destroy larvæ and eggs of insects: Whale-oil soap ¼ lb., sulphur 4 lbs., tobacco ¼ lb. powdered nux vomica 1 oz. Pour over these 1 gallon of boiling water and stir well together, and apply with a paint brush. To lay the vines down, tie it to the wire at about two feet from the ground, and then bend the portion above this point to a horizontal position and cover about three inches thick with straw and tie it on, or put up boards in front of the vines and cover with forest leaves. Keep the house cool by opening ventilators on clear days; close at night, and on cloudy and severe ones.

Fruit Garden.—Most things will be benefited by a good coat of manure. Currants and gooseberries may be pruned by cutting out the old wood where crowded, and shortening the last season's growth. Bury the new wood for cuttings. Prune grape vines, leaving one or two buds more than are needed, to be removed next spring. Vines are trained on so many different plans that no precise directions can be given. If the wood is needed for propagating, save only the well-ripened, and preserve in a moist cellar or bury in a dry place in the open ground. Every one who owns a vine or many, should read that plain and practical work, Fuller's Grape Culturist. Give strawberry beds a covering of straw, leaves, or other protecting material.

Apiary in December.—*Prepared by M. Quinby.*—Bees to be housed in winter, should have the advantage of flying out the last warm days that occur. To make the confinement as short as possible, leave them until winter approaches in earnest. They are much more quiet in handling, when the weather is a little sharp, than on warm days. The room in which they are stored, should be *perfectly dark*, and dry as possible. Fifty stocks or more, are necessary in a room above ground, to secure a temperature sufficiently high. Over one hundred would make it too warm part of the time. A few may be kept comfortable in a dry warm cellar. As there is always moisture generated in a hive of bees, some means must be provided to get rid of it. The box hive should be turned bottom upward, when sufficient ventilation can not be obtained otherwise. The honey board of the movable comb hive may be raised a little, or some of the holes—passages to the surplus boxes—may be opened. Bees consume less honey when protected and kept warm, than when exposed to the inclemency of the weather. A very few bees will perish when the temperature is at the freezing point, but in a full colony they warm each other and sustain life in a much colder atmosphere. A number of colonies together warm each other on the same principle. Feeble stocks that would perish in the open air, are so much benefited by the warmth given out by the stronger ones, as to pass the winter safely. Only strong stocks will do well in simple wooden hives in the open air. If the moisture passes out through any special vents, it will carry with it much of the warmth, which a feeble colony can not afford to spare. Hives of straw may yet be made, early in this month, to be used the coming winter by those having the movable combs. When transferring the contents from wooden hives to those of straw in cold weather, take them to some room nearly dark, where they will fly much less. Wood hives are greatly benefited by surrounding with a good thickness of straw. If the fly holes are large enough for the mice to enter, nail wire cloth over them, but leave a passage for the bees. Bees may be buried in some places, safely. A very few may be entirely covered with earth, first surrounding the hives with a thick coating of straw. A large number would need the admission of air. The light must be excluded, as well as mice and moisture.

Twenty Good Premiums

For Volume 24.—1865.

We can not employ traveling or local Agents to solicit subscriptions, as is done by most other journals. There is no margin of profit out of which to pay commissions. The (new) terms are arranged to just meet the present cost of supplying the paper. We hope "in the good time coming" to make a reasonable profit; but while waiting for better times, our chief aim is to maintain and increase the present circulation. Even this will require some effort, for at the usual rate of mortality, 3000 or more out of every 100,000 die annually; while many thousands of our subscribers have volunteered in the service of the country. The enterprising men who take and read journals of this kind are foremost in every good work. We met many readers in the camps in Virginia, and we hear of and from them in almost every part of the country where the Union armies have penetrated.

We shall be glad to send the *Agriculturist* into many new families, believing that its mission will be useful. All who aid in this will do a good work.

To those who take time to collect clubs of subscribers, we offer below as *premiums*, some good articles purchased with funds derived from other resources than subscription money, for that will all be required in supplying the paper, unless printing paper and labor decline materially.——We invite every subscriber, everywhere, to make an effort to obtain one of the good articles offered as premiums. They are all worth securing.

Send along the names as fast as obtained, that the subscribers may begin to receive their papers promptly. When any list is completed notify us which of the articles is desired, and it will be promptly forwarded. To save mistakes and the keeping of money accounts, send with each name or list of names the exact subscription money.

To avoid errors and save immense labor in looking over our books, it is absolutely essential that every name designed for a premium list be so marked WHEN *sent in.* (Such names will be credited the sender in a separate book, as fast as received—ready for instant reference.)

Old and new subscribers will count in premium lists, but they should be partly new names, for it is to obtain such that the premiums are in part offered. Premium clubs need not all be at one Post office. Of course only one premium will be given for the same subscriber.

Table of Premiums and Terms. For Volume 24.

Open to all—No Competition.

Names of Premium Articles.	Price of Premiums.	Names at $1.50 each.	Names at $1.00 each.
1—GOOD BOOKS—*See terms below* *	.....	14	60
2—Case of Drawing Instruments	$8 00	14	60
3—Best Family Clothes-Wringer	$10 00	17	70
4—Doty's Washing Machine	$12 00	19	80
5—Sewing Machine, (Wheeler & Wilson)	$55 00	70	360
6—Four Octave Melodeon (best)	$67 00	80	400
7—Five Octave Melodeon (best)	$112 00	140	600
8—Brown's Baby Tender	$30 00	37	180
9—Brown's Baby Tender	$42 00	52	236
10—Woodruff's Mercurial Barometer	$10 00	17	70
11—Woodruff's Mercurial Barometer	$15 00	21	90
12—The Aquarius	$12 00	18	80
13—Ladies' Rosewood Writing Desk	$12 00	18	80
14—Gentleman's do do do	$14 00	21	90
15—Any back Volume Agriculturist,	$1 50	..	20
16—Any Two do do do (Postpaid. Unbound.)	$3 00	..	25
17—Any Three do do do	$4 50	..	30
18—Any Four do do do	$6 00	11	40
19—Any Five do do do	$7 50	13	50
20—Strawberry Plants—*See Terms below.***	.....	..	..

☞ *No charge is made for packing or boxing any of the articles in this Premium List. The Books, also Premiums* 2, 15, 16, 17, 18, 19 *and* 20, *are* DELIVERED *to any part of the United States and Territories, free of all charges. The other articles cost the recipient only the freight after leaving the manufactory of each.* ☜ *Every article offered is new and of the very best manufacture.*

NOTES ON THE PREMIUMS.

Premium 1.—*Good Books.*—Any person sending a club of 25 or more subscribers, may select Books from the list on page 353, to the amount of 10 cents for each subscriber sent at $1; or to the amount of 60 cents for each name at $1 50. This offer extends *only* to clubs of 25 or more names. The Books will be sent by mail or express, *prepaid by us.*—This is a good way for the farmers of a neighborhood to get up an Agricultural Library for general use. Several Farmers' Clubs have done so.

Premium 2.—The Case of Drawing Instruments is a Rosewood Box, containing a dozen very excellent articles, of polished steel and brass—useful for sketching, drawing, plotting, laying out plans of land, buildings, etc. There are dividers with joints, points, markers, pencil holders, ruling pens, semicircles, etc., etc. Each piece is fitted into a velvet cushion. These instruments were part of those ordered from Paris for last year's premiums, which arrived too late. They could hardly be imported now for double the money. While useful to all, nothing better could be given to children to develop their tact, taste, and mechanical skill.

Premium 3.—The *Clothes-Wringer* is too well known to need description. No better or more useful labor-saving and clothes-saving implement has ever been introduced into the household. We give only the "Universal Clothes-Wringer," fitted with cogs, which we esteem essential to any good wringer. The one we offer (No. 2) is of the right size for general family use. It is a good Christmas or New-Year's present for your care-worn wife.

Premium 4.—*Doty's Washing Machine* we have tried thoroughly for nearly a year past, in competition with many others sent to us, and for actual service this seems to be an improvement upon every previous machine we have tested. It is compact, and easily and naturally worked. Our "better half," who has been complimented with the gift of a score or more of different machines for trial, says this is taken to most kindly by the "help," and that she can not persuade them to use any other while this is at hand. The machines sent to those entitled to them as premiums will be forwarded from Janesville, Wis., to those living in Ohio and further west; and from the manufacturers' New York Warehouse to those living east of Ohio. Send to Messrs. Doty Brothers, Janesville, Wis., for a descriptive circular, which will be supplied free.

Premium 5.—Woman's Greatest Boon. We would advise a man to forego a thresher, and thresh wheat with a flail, rather than to see the wife wear her health, vigor, and life away, in the everlasting "stitch, stitch, stitch," when a Sewing Machine can be obtained. The Wheeler & Wilson, or some other good machine, is an invaluable aid in every household. We have had several different machines on trial, and after six years' service the Wheeler & Wilson has taken precedence as the best machine for all kinds of sewing to be done in the family. A large number of persons have in the past years secured one of these premium machines as Christmas or New Year's presents for the home circle.

Premiums 6 and 7.—We have had one of Geo. Prince & Co.'s large *Melodeons* in our Sunday School room for five years, where it has given the highest satisfaction, and in all this time it has not had the slightest repair or tuning. We can recommend this instrument very highly. Send a P. O. stamp to Geo. A. Prince & Co., Buffalo, N. Y., and get an illustrated descriptive catalogue, giving sizes, prices, etc. The Premium Melodeons will be forwarded direct from the manufactory ready boxed, by railroad, steamboat or express, as directed by the recipient. ☞ It is very easy for the members of a Congregation to make up a club of subscribers to the *Agriculturist*, and get one of these Melodeons for the Church or Sunday School room. Many churches have done so since we first offered this premium.

Premium 8 and 9.—The *Baby Tender* happens to be so well described on page 347, that we need add nothing further here. We select two styles that will meet the wants of the larger class. More costly ones, in a higher style of finish (though not more effective,) will be supplied for a proportionably greater number of names.

Premiums 10 and 11.—*Woodruff's Mercurial Barometers.* These are the best instruments we know of for the price. Send to the manufacturer, Charles Wilder, Peterboro, New Hampshire, for a circular giving engravings and a full description of the instruments. They are so portable that the manufacturer will *warrant the safe delivery* to the recipients of every instrument given by us as a premium, if not to be sent beyond the Rocky Mountains. We offer two forms, both of which are effective and accurate, differing mainly in the style of case. Both have a thermometer and vernier. The $15 instrument is of course the most desirable, though either one of them will be highly useful. The barometer, as a weather indicator, is almost as valuable to the landsman as to the mariner. There are many times in a year when the warning of a barometer will save more than its cost, while the annual interest on the price will be only 75 cents or $1 a year. The *habit of observation*, and of scientific study, cultivated in children, well repay the cost of such implements. A little effort will secure a premium one.

Premium 12.—The *Aquarius*, or Water-Thrower, is an excellent portable force-pump, useful in many ways—to water the garden or plants, to wash windows, carriages, etc. One can catch up the implement, carry it to any place, and from a pail throw a considerable stream of water 20 to 30 feet or more, and thus sometimes put out an incipient fire that could not be readily reached otherwise. It has a jet-pipe, and also a rose, or sprinkler. An air-chamber attached keeps up a steady stream. Send to W. & B. Douglas, Middletown, Conn., and get a circular giving full particulars.

Premiums 13 and 14.—These are very neat, portable *Rosewood Writing Desks*, which can be closed up and locked when not in use. *When closed*, No. 13 is 12 inches long, 9 inches wide, and 4 inches high, and will hold ordinary letter paper. No. 14 is just like No. 13, but larger, and will hold foolscap paper. They are both of fine rosewood, finished with brass corners and mountings. No. 13 is a fine present for a teacher or other lady, and either one is convenient for any person both to use as a writing desk on the table or even on

the lap, and to keep documents, paper, pens, ink, etc., safely and always conveniently at hand when wanted.

Premiums 15 to 19.—Each volume of the *Agriculturist* is, in a certain sense, a Cyclopedia of information for the Farm, Garden and Household. Any volume, from 16 to 23 inclusive, can be supplied in neat new numbers, freshly printed from stereotype plates, with Index and Title page complete. They are necessarily sent post-paid. If desired bound, they will cost $1 per volume extra for the binding and additional postage. A few of these volumes will make a good addition to any one's store of reading matter, valuable for reference on every topic connected with rural life.

** **Premium 20.**—The "*Agriculturist Strawberry Plants*"—Any person sending a club of 25 or more subscribers will be presented with one dozen of these plants, if applying before our stock is exhausted. We reserved only 40,000 plants for distribution, a part of which have already been called for. These will be sent out early in spring, free of expense to premium takers. Independent of the above, any subscriber may call for a plant, if he send 5 cents for expense of packing and postage—but *only* on condition that the application comes *with* the subscription, to save looking up the name.

Commercial Notes—Prices Current.

The following condensed, comprehensive tables, carefully prepared specially for the *American Agriculturist*, show at a glance the transactions for a month ending November 16, with other interesting comparative figures.

1. TRANSACTIONS AT THE NEW-YORK MARKETS.

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
27 days *this* m'th.	481,000	1,287,000	988,000	239,000	861,000	2,534,000
26 days *last* m'th.	339,000	1,313,000	1,190,000	187,000	321,000	1,925,000

SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*
27 days *this* month,	458,000	1,411,000	1,132,000	174,500	613,000
26 days *last* month,	278,000	1,365,000	1,427,500	94,000	115,000

2. *Comparison with same period at this time last year.*

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
27 days 1864	481,000	1,287,000	988,000	239,000	861,000	2,534,000
27 days 1863	530,000	3,034,000	531,000	21,000	607,000	2,102,000

SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*
27 days 1864	458,000	1,411,000	1,132,000	174,500	613,000
27 days 1863	499,000	3,113,000	2,013,000	26,000	588,000

3. *Exports from New-York, January 1 to November 16.*

	Flour, bbls.	Wheat, bus.	Corn, bus.	Rye, bus.	Oats, bus.
1864	1,764,342	11,932,576	814,608	453	39,643
1863	2,278,535	14,199,328	7,486,835	415,249	123,996
1862	2,683,086	23,216,817	10,542,556	1,888,790	144,165

4. *Receipts of Breadstuffs at Albany, by the New-York Canals from the opening of navigation to Nov. 1th.*

	Flour, bbls.	Wheat, bus.	Corn, bus.	Rye, bus.	Barley, bus.	Oats, bus.
1864	970,400	13,415,600	9,035,500	525,500	2,078,700	9,440,000
1863	1,142,100	17,314,300	20,405,600	333,700	1,966,400	8,582,900
1862	1,511,300	27,574,800	19,291,200	737,400	1,438,100	4,449,000

CURRENT WHOLESALE PRICES.

	Oct. 15.		Nov. 16.	
FLOUR—Super to Extra State	$8 00 @ 9 15		$9 30 @10 40	
Super. to Extra Southern	10 50 @14 50		10 70 @15 25	
Extra Western	8 75 @13 00		9 90 @13 00	
Extra Genesee	9 15 @12 00		10 40 @12 00	
Superfine Western	8 00 @ 8 50		9 40 @ 9 80	
RYE FLOUR	8 25 @ 9 75		8 25 @ 9 25	
CORN MEAL	7 65 @ 8 00		7 50 @ 8 50	
WHEAT—All kinds of White	2 30 @ 2 40		2 45 @ 2 65	
All kinds of Red	1 81 @ 2 12		2 17½@ 2 45	
CORN—Yellow	1 55 @ 1 56		1 63 @ 1 84	
Mixed	1 52 @ 1 53		1 82 @ 1 84	
OATS—Western	85 @ 86		88 @ 1 00	
State	84 @ 86		97 @ 99	
RYE	1 30 @ 1 40		1 62 @ 1 65	
BARLEY	1 67 @ 1 95		1 80 @ 2 05	
COTTON—Middlings, per lb	1 10 @ 1 15		1 40 @ 1 42	
HOPS, crop of 1863, per lb	15 @ 33		15 @ 33	
HOPS, crop of 1864, per lb	36 @ 50		30 @ 52½	
FEATHERS, Live Geese, p. lb	72½@ 75		75 @ 80	
SEED—Clover, per lb	Nominal.		19 @ 20	
Timothy, per bushel	5 00 @ 6 00		5 50 @ 6 00	
FLAX, per bushel	3 00 @ 3 10		3 55 @ 3 65	
SUGAR—Brown, per lb	17 @ 21		18 @ 25	
MOLASSES, New-Orleans, p. gl	90 @ 1 10		1 00 @ 1 25	
COFFEE—Rio, per lb	36 @ 39½		42½@ 47	
TOBACCO—Kentucky, &c, p. lb	12¾@ 40		12 @ 48	
Seed Leaf, per lb	25 @ 65		15 @ 63	
WOOL—Domestic fleece, p. lb	80 @ 97½		90 @ 1 05	
Domestic, pulled, per lb	65 @ 90		73½@ 1 00	
California, unwashed	25 @ 60		30 @ 70	
TALLOW, per lb	15½@ 17		18 @ 19	
OIL CAKE, per ton	75 00 @80 00		82 50 @95 00	
PORK—Mess, per bbl	43 00 @43 00		40 50 @40 75	
Prime, per bbl	39 00 @40 00		37 25 @38 00	
BEEF—Plain mess	13 00 @17 00		14 00 @22 00	
LARD, in bbls., per lb	20 @ 22		21½@ 24	
BUTTER—Western, per lb	32 @ 36		34 @ 46	
State, per lb	36 @ 45		44 @ 56	
CHEESE	12 @ 21		16 @ 25	
BEANS—per bushel	1 75 @ 2 55		1 80 @ 2 50	
PEAS—Canada, per Bushel	2 00 @ 2 00		Nominal.	
EGGS—Fresh, per dozen	28 @ 29		48 @ 50	
POULTRY—Fowls, per lb	16 @ 17		16 @ 20	
Turkeys, per lb	18 @ 20		16 @ 24	
Spring Chickens, per pair	50 @ 1 00		60 @ 75	
POTATOES—Mercers, p. bbl	3 00 @ 3 50		2 50 @ 3 00	
Peach Blow, per bbl	2 75 @ 3 00		2 00 @ 2 50	
Pinkemans, per bbl	2 50 @ 3 00		2 00 @ 2 25	
APPLES—Baldwins, per bbl	2 75 @ 3 00		4 00 @ 5 00	
Apples—Fall Pippins, per bbl	1 00 @ 1 75		4 00 @ 5 00	
Apples—Common per bbl	2 00 @ 3 00		3 00 @ 4 50	
CRANBERRIES, per bbl	12 00 @15 00		11 00 @15 00	
QUINCES, per bbl	3 00 @ 6 00		8 00 @11 00	

Owing to the rise in gold, domestic produce improved during the past month. Breadstuffs were more in demand with very light receipts, and prices went up, but now tend downward. Our tables above, carefully prepared from official and other reliable sources, indicate the absolute and comparative magnitude of the business of the month—receipts, sales and exports—to November 16 .....Provisions have been very animated. Receipts and sales of hog products have been very large, but at quite variable prices, closing in favor of buyers. The demand for Beef, Butter, and Cheese, has been quite brisk, at high rates.....Domestic wool has advanced considerably, and prices still tend upward, partly because holders anticipate further improvement.....Hay and hops have been in fair demand at steady prices....Hemp and Seeds, quiet.....Tobacco, active and stiffly held.

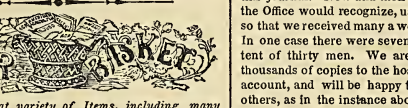
New York Live Stock Markets.—BEEF CATTLE.—The weekly receipts for 5 weeks past, average 6,555. With plenty of common cattle, there has been a lack of choice beeves. Prices have fluctuated. Monday, Nov. 14, demand active, rates advanced. Good bullocks sold at 16@18 cts. per lb., for estimated dressed weight; medium, 12½@15½ cts.; poor grades, 9@12 cts.

Milch Cows.—Average arrivals per week, 112. The demand is not very active; but first-rate milkers command high prices—good stock, from $60 to $75; choice, $80 and over; ordinary and fair, $30 to $50.

Calves.—Receipts average 1,767 per week. Good veals are worth 12@13 cts. per lb. live weight; fair, 10@11 cts. The supply is lighter than last month.

Sheep.—Weekly average, 21,662. Prices of good sheep, 8@8¾ cts. per lb. live weight; select 9 cts.; medium, 7@7½ cts.; light sheep, about ⅔ to $6 per head. Lambs sell at $4.50@$6 each; 10 cts. per lb. for best.

Live Hogs.—Supply per week, 23,241; or nearly 10,000 above last month. Prices vary from 11@12½ cts. per lb., live; or 14@15½ cts. per lb. for dressed.



Containing a great variety of Items, including many good Hints and Suggestions which we throw into small type and condensed form, for want of space elsewhere.

Many Good Articles and Items, ready in type, and in manuscript, are crowded over to the next number, by the Index and various business items necessary to be inserted in this closing paper of the volume.

To use the Index and Title Page.—In binding or stitching the numbers together, cut *this* number open, loosen the thread at the back, take the two outside leaves, and place them at the beginning of the volume. We bind volumes left at the office, for 75 cents.

Complete Volumes of the Agriculturist on Hand.—We can supply any volume, from 16 to 23 inclusive, mostly newly printed from stereotype plates. Price at the Office, $1,25 each in numbers; or $2,00 neatly bound in our regular style. If to go by mail, *add* for the postage which must be prepaid: 24 cents per volume for the unbound, and 44 cents for the bound.

To Correspondents.—Several letters from our readers remain as yet unattended to, simply because the days are only 24 hours long, and because the paper-makers' prices, and the demand for a low-priced journal, limit our space to 32 pages.—The Publisher has regained nearly his former strength and vigor, and all his lost flesh, and more too, and is rapidly bringing up arrears in business matters requiring his personal attention.

Over Two Thousand Items.—The editor in charge of the Index, reports over **2,000** separate articles and items contained in this single volume. Has any reader failed to derive more than one hint, or suggestion, or train of thought, that has been, or will in the end be worth a dollar? Would any one part with all he has learned, or thought of, while reading the *Agriculturist* since last December, and receive a dollar instead? The Irishman who said "one man was as good as another; faith, an a little better," said just what we think about the next volume. (*Mem.* The next volume, with *its* thousands of articles, items, engravings, etc., etc., will cost only $1,50, or less to clubs of subscribers.)

About Books.—On page 353 will be found a list of such books as we can now supply, on subjects relating to the farm, garden and household. Many of the books are out of print, and only a limited supply remains. New editions will not be issued until paper and labor materially decline, so that those wanting any of these books will do well to supply themselves at an early day.

Important to Advertisers.—Distant parties, or others unknown to the Publisher personally or by good repute, who may wish to use the business columns of the *Agriculturist*, must satisfy us with respect to their integrity. We can not go into every man's establishment and examine his wares and prices, but unless we have reason to believe that a dealer will treat his customers well, and that goods selected or ordered, and paid for, will be *delivered* as promised, in kind, quality, and price, we can not consent to the use of these columns as a guide-board to *his* establishment for our hundred thousand subscribers. No patent medicines, secret remedies, or other such things, are advertised on any terms.—At the special desire of many advertisers, we as usual request those ordering, or sending for circulars, etc., to state *where* the advertisements were seen.

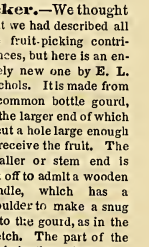
Petroleum Humbugs.—To avoid the possibility of leading our readers astray, we have declined large sums offered for advertisements by petroleum companies, some of them apparently got up in good faith. The chance success of some stock companies—not a dozen in all—is leading to the formation of hundreds of others, with an aggregate capital reported at $160,000,000. Of these probably nine-tenths will turn out failures or *frauds*. We incline to Cuffee's advice in Cholera times: "Eat nossing at all, and den you no 'spose yourself."

Papers for Wounded Soldiers.—A liberal hearted business man of this city, after renewing his own subscription the other day laid down a twenty dollar bill, saying: "Send twenty more to soldiers' hospitals of your own selection, that wounded men may have something besides 'trash' to read." This is worthy of imitation. A large number of our soldiers are farmers, and in our labors among the wounned men in Virginia, we seldom found more acceptable gifts than copies of this journal. Now and then some one who had been at the Office would recognize, us, and pass our name along, so that we received many a welcome from former readers. In one case there were seven of our old subscribers in a tent of thirty men. We are distributing a good many thousands of copies to the hospitals this year on our own account, and will be happy to have the co-operation of others, as in the instance above-named. Such subscriptions will be very willingly supplied at cost or less.

The Wheeler & Wilson Establishment.—A very pleasantly written account of this appears on page 351. Every one coming to New York City should visit this "palace of industry," which all are freely invited to do, without regard to their being customers. The ceiling and wall paintings there give one some idea of the manner of adorning the finest public buildings, churches, art galleries, hotels, etc., in Europe.

Portraits of Our Sucessful Military Heroes will be in demand among their thousands of admirers. We have examined those advertised in our columns by C. B. Richardson. They are beautifully executed on steel, and will be ornamental in any dwelling.

The Latest Fruit-picker.—We thought that we had described all the fruit-picking contrivances, but here is an entirely new one by E. L. Nichols. It is made from a common bottle gourd, in the larger end of which is cut a hole large enough to receive the fruit. The smaller or stem end is cut off to admit a wooden handle, which has a shoulder to make a snug fit to the gourd, as in the sketch. The part of the handle entering the gourd has a hole through it, or a groove, and melted lead is poured in to fasten the handle.



A Hearty Laugh is a luxury—and often is a first-rate medicine. We indulged in such a laugh the other evening, while the young folks were amusing themselves with an innocent and very comical game, advertised on another page, under the fanciful head, "The most Laughable Thing on Earth." It is not a humbug.

"Our Farm of Four Acres."—This pleasant and instructive volume is worth procuring and reading by every person in the country or city. It has been out of print lately, as its former publishers have gone out of the book business. To meet the want for it, we have procured the publishing of a new edition, which is now just ready. The price, post-paid, is only 30 cents per copy in neat paper covers; or 60 cents if full bound.

"Tobacco Culture"—"Onion Culture."—The best information on these subjects which can anywhere be found, is given in two little works, containing the plain, *practical* directions of a large number of cultivators of long experience, and residing in different parts of the country.—PRICE, post-paid, for "Tobacco Culture," 25 cents; and for "Onion Culture," 20 cents.

The Yeddo Grape.—Several persons have asked about this variety, concerning which there were such great expectations. The vines of Messrs. Parsons, of Flushing, L. I., did not fruit this year. Those belonging to Dr. Hall, who first introduced the vines into this country, made a show of fruiting, but being in an unfavorable situation did not perfect their fruit. Mr. Saunders, of the U. S. Propagating Gardens at Washington, exhibited a specimen at the meeting of the Pomological Society, at Rochester, Sept. 13th. The bunch was long and loose, with berries about the size of a large Delaware. At that time they were just beginning to color, and no opinion could be formed of their quality. Mr. S., we believe, is pleased with the growth of the vine, and considers that it is a variety of much promise. Doubtless some years of trial will be required to fully determine the actual merits of the Yeddo.

The Pomological Society's Proceedings.—"F. A. S.," St. Louis, Mo. It is impossible to publish these in detail as they would occupy the whole paper. All interested in Pomology should become members of this society, which they can do by sending $2 to the Treasurer, Thomas P. James, of Philadelphia. Membership entitles one to a copy of the transactions.

Grapes in a Poultry House.—"W. K. D.," North Reading, Mass., having built a poultry house with walls of sods and a glazed roof, asks if he could not grow Black Hamburgh grapes in it. Undoubtedly if he will only take sufficient pains. His roof is 9 feet long, and would accommodate two vines. The border must be prepared before winter. The roof should not be at a less angle than 45°, and provision is to be made for ventilation above and below. By taking Chorlton's Grape Growers' Guide, and following its suggestions, we can conceive that much interesting amusement and some good fruit may be realized from such a structure. Of course the poultry must go out when the vines start.

Osiers for a Grape Trellis.—W. B. Waldo has an abundance of osier willow of rank growth, and wishes to know if he cannot use it instead of wire in making a trellis on Mr. Fuller's plan. (August *Agriculturist*, 1863, p. 244.) The idea seems so feasible that it is certainly worth trying, and we have little doubt of its success. The osiers would be rendered more durable by soaking in a solution of blue vitriol, or by covering them with thin coal tar. We shall feel much interest in the results of this experiment when made, and hope Mr. Waldo will communicate them for the benefit of others.

A Long Vine.—C. A. W. Warner, Mahoning Co., O., sends us the measurement of a volunteer citron-melon vine which came up in his garden. The total length of the main vine and branches was 381 feet, and it produced a little over 41 lbs. of fruit. Mr. Warner gives a very complete and interesting measurement of all the different parts of the vine, for which we have not room.

Propagating Grapes.—T. Wheeler and others. The Delaware does not propagate readily in the open air. If disposed to give a trial, make the cuttings of two eyes at once, and bury them for the winter below reach of frequent freezing and thawing, and set out in a moist place when the ground is warm. A portion will grow, with good management. The Iona and especially the Concord grow readily in open air. See Calendar.

A Winter Pear Wanted.—Dr. W. Camp, Hartford Co., Conn. Try the Lawrence, described on page 345. The varieties mentioned have not been very extensively cultivated. The Josephine de Malines has to be quite old before it bears well. The Belle Williams is a very large winter pear, which promises well.

Hardy Apples for the North and Northwest.—Frequent inquiries are made as to what varieties are hardy in the colder portions of the Western States. Many live far from nurseries, and are in the main obliged to buy of traveling agents, who have very little knowledge of varieties, and can not often be relied upon to furnish trees of the kind they contract to deliver. The following list of varieties is furnished to the *American Agriculturist* at our request, by a gentleman who has tested them in Northern Illinois, in about the latitude of Chicago. This list includes none but what were perfectly hardy there. As far as the reports of the Pomological Society and other statistics go, a good portion of these have been found to succeed in Iowa, Wisconsin and Minnesota. Lists of those known to be hardy in those States are desired. Our correspondent found the R. I. Greening, Baldwin and Northern Spy very long in coming into bearing and not satisfactory. His advice is to try these three varieties sparingly, if at all, and to reject the Esopus Spitzenberg altogether:

SUMMER.—American Summer Pearmain, Carolina Red June, Early Harvest, Golden Sweeting, productive and usually fair; Keswick (English) Codlin, very early bearer, productive, has good flavor for cooking before August. It is ripe and fair for eating about the last of September; one of the very best for cooking; sells high; profitable. Williams' Favorite, productive, early.

AUTUMN.—Drap d'Or; Paragon (Downing's) Sweet; Dutchess of Oldenburg, fine looking, early, constant and abundant bearer, some esteem it for eating, but better for cooking; Hawthornden, dwarfish, early bearer, very productive, of good size and almost uniformly fair, very acid; for cooking or drying; if not well fed or the fruit thinned, it may soon fail from overbearing; may be planted very closely; profitable for market because so fair; Jersey Sweeting; Late Strawberry; Lyscom.

WINTER.—Belmont; Campfield, sweet, for cider, productive; Danvers Winter Sweet; Golden Russet of Western New York, bears early, productive; Fameuse, Snow Apple, (Pomme de Neige,) excellent when well developed, bears abundantly, and needs rich soil and good culture; Ladies Sweeting, productive, very good; Limber Twig, small, good flavor, keeps well.—Monmouth Pippin; Mother, superior; of Spitzenberg family, Ramsdell's Sweet, very productive; Rawle's Janet, late keeping, flowers late; Talman's Sweeting; Westfield Seek-no-further; White Bellflower, very hardy and productive; Willow Twig, long keeper; Winesap, small, but early bearing, productive and very long keeping, has been kept past the 4th of July, sound, and with well-preserved flavor, must be well manured and cultivated; Yellow Bellflower, not productive.

Replanting Old Orchards.—"J. F. S." asks if it would do to plant young trees in the places where old ones have died and decayed. We should prefer to cultivate a few years with well-manured crops, using lime or ashes, before setting new trees. Better give up the old orchard and start anew on fresh land.

Seeds for Fruit Stocks.—O. Moffat and others. All the large dealers sell seeds of those raised in this manner. Dwarfing stocks for apple and pear are raised from stools, and not from seed. They may be had of the larger nursery establishments and importers. See advertisement of C. Raoux, in the present number.

Peaches and Small Fruits in Delaware.—A correspondent at Frederica, Del., writes that from 2,600 peach trees, 4 years old, he marketed and canned 5,000 baskets, fed 500 baskets to hogs, and that about 500 went to waste for want of facilities for getting them to market. Strawberries do well, and for the past three years he has annually marketed 7,000 to 9,000 quarts. Grapes do not succeed with him.

Roses from Seed.—A. E. Rouse, Woodford County, Ill. The seed is kept in sand through the winter and sowed in pots or boxes in spring. The young plants are potted as soon as they have made three or four leaves beyond the seed leaves. After they have grown in small pots for about a month they are put out in a nicely prepared bed. It is badly worth while for amateurs to take this method to procure plants, as perhaps not more than one seedling in a thousand will be worth growing. Good established sorts are easily raised from cuttings.

Protecting Strawberry Beds.—M. S. F., Ludlow, O., lays cornstalks parallel with the rows, and then spreads over them a covering of leaves. In the spring the stalks are removed, and the leaves are left as a mulch, and to keep the fruit from being soiled. In protecting with any material, the crowns of the plants should be lightly covered. The main object is to keep the soil around the roots from sudden thawing and freezing.

Drying Kiln Wanted.—We have several inquiries for the best kiln for drying fruit. Will those having such in operation send us drawings and descriptions?

The Iona Grape.—B. H. Eldridge, Tippecanoe Co., Indiana. The Iona is of a fine wine color, something like the Catawba, and with a beautiful bloom. Allen's Hybrid is the best white variety that has been thoroughly tested, though it mildews in some localities.

Strawberry Query—Fruiting under Glass.—To several inquirers. The "Agriculturist Strawberry" is a "perfect" plant, bearing both stamens and pistils, and needs no other variety near it.—Last winter we built a bed inside the green-house, and set out fifty plants. These appeared green and vigorous and the crowns increased somewhat, but no runners were started. In February the heat was increased, and the plants were in full bloom for several weeks, but no fruit set. We began to fear there had been some mistake about the plants being perfect ones, especially as upon a causal glance no stamens were visible. A closer examination with a magnifying glass proved the presence of minute undeveloped stamens. This fact, together with the full fruiting at the usual season of all the plants in the open ground where 1½ acres were grown, with no others near, proved that the influence of the glass, or of the confined unnaturally warmed air prevented the full development of the stamens. Have others noted this phenomenon with strawberry plants growing under glass?

The Sheldon Pear.—M. H. Smith, of Wayne Co., N. Y., states that we gave the wrong town as the place where this originated. He states that there are two trees on the farm of Norman Sheldon in Huron, Wayne Co., N. Y., from which he ate fruit 32 years ago.

Surface Manuring of Pear Trees. G. W. J. Kellogg, Rock Co., Ill. Coarse manure applied in the spring, at the time the rains come on, wastes but little. The soluble matters are washed into the soil, and the litter that remains is an excellent mulch.

Knotty Pears.—S. Balsiger, Madison Co., Ill., complains that his pears or quinces grow knotty. Try surface manuring and a free thinning of the fruit.

Wormy Apples and Manuring Orchards.—"A. M. D," Waterville, Me. If one particular variety always has its fruit attacked you must either contrive to trap the moths before they lay their eggs, or graft the tree over with some fruit which they are not so partial to. There is no remedy after the egg is laid. In winter or early spring spread a good coating of coarse manure around the tree as far as the roots extend; a little heaped around the trunk does no good. The feeding roots go about as far as the branches.

Evergreens from Seed.—T. Welsh, of Athens Co., O., finds that his seedling evergreens die when they get one or two inches high, and thinks that there must be some secret about raising them. The only "secret" we know is to shade the young plants properly, say with a screen made of lath laid an inch apart, to break the full sun's rays. If they show signs of "damping off," give a free sprinkling of dry sand over the plants.

Osage Orange Seed in Illinois.—A correspondent of the Scientific American writes from Springfield, Ill., that the hedges in that portion of the State were uninjured by the severe cold of last winter. He states that the old hedges have borne an abundance of fruit, which has been bought up for the purpose of obtaining the seed, and that home raised seed has proved more reliable than that formerly procured from Texas.

Osage Orange from Root Cuttings. Jas. H. Moore, Louisa Co., Iowa, cut roots in pieces 3 inches long, and planted in well prepared soil, 8 inches apart, and 1½ inches deep. In about three weeks each piece of root made 2 or 3 shoots, and though a mole destroyed all the plants, they grew to be 4 or 5 inches high, and he has no doubt of the success of this method.

Hedges from Native Thorns.—Several inquirers. Our thorns will make a hedge, but their foliage generally gets dull soon, and drops early in autumn, hence they are not so well adapted to the purpose as many other plants. The cockspur thorn has the thickest and most glossy foliage of our native kinds. Gather the fruit when dead ripe, wash out the seeds and sow at once or keep in sand till spring. They often are a year or more in germinating.

The Hawthorn for Hedges.—W. M. Beauchamp, Onondaga County, N. Y., asks why agricultural journals are "so set against the European Thorn" for hedges. We can answer only for one journal, and say that we are not "set" against this thorn any further than that we do not believe it adapted to general cultivation in our climate. In most localities it drops its leaves in time of drouth. As Mr. B. says that this is wholly owing to mismanagement—will he have the kindness to communicate his management and experience?

Thorns from Seed.—S. M. Cheney. If the seeds are planted as soon as ripe, some of them may come up next year, many more will grow the year after, and some stragglers will not appear till the third year.

An Evergreen Screen.—Mr. Fare, Lake County, Ill., finds his garden too much exposed to the highway, and wishes to plant a screen. Nothing is better for this than Norway Spruce. We would never plant any other tree with it in a hedge. It makes a dense screen, grows rapidly, and may be trimmed freely.

Tree for a River Bank.—A. W. Curtis, Green county, Wis., is troubled by the washing of his

river banks, and wishes to know what to plant to prevent it. We should be disposed to try the Osier Willow as promising better than any other plant, but this is not a perfect remedy, and it is difficult to find anything that is.

A "Seedling" Lombardy Poplar.—T. C. Martindale, Philadelphia Co., Pa., sends us a leaf of what appears to be a Lombardy Poplar, it is from a young plant, which he supposes to be a seedling. There are no known pistillate or fruiting trees in the country, and as the plant was at least 200 yards from any other tree, it could hardly have been a sucker. He asks us to explain the phenomenon of its occurrence. We should say, boys. Youngsters are fond of using poplar twigs to play with, to make whistles, etc., and very probably this young tree grew from a bit stuck in the ground by some boy at play; they grow with the greatest ease.

Where Did it Come From?—A. Ely, Lancaster Co., Pa., writes that some furrows were turned on a road side, which had not been broken for 10 or 12 years, and that a fine crop of mullein grew on the upturned soil. As this happened in a locality where there is no mullein, he asks where the seed came from. It is simply an illustration of the fact that seeds will lie in the ground for a long time when buried below the influences which favor germination. There is a well authenticated case recorded in which seeds that had probably been buried sixteen or seventeen hundred years, germinated and produced plants.

Bad Success with Chicory.—Mr. G. W. Thompson, of Essex county, N. J., complains that his chicory, sowed in good ground, blossomed the first year and failed to form roots of any value. The chicory should not bloom the first year. It often happens, from some unexplained cause, that biennial plants will become annuals, and it is not rare to see in a field of carrots a plant here and there with this precocious tendency. That seeds from these annual specimens inherit this peculiarity is shown by the fact that the seeds from the chicory which blossomed the first year, produced plants which did the same. The only remedy is to change the seed. Doubtless breaking off the flower stalks on their first appearance would incline the plant to the formation of root.

Raising Cabbage Seed.—W. T. Keaton, Shelby Co., Ind., plants his cabbages out in the spring, and then cuts away all the head but the central stalk, which he leaves about the size of a man's arm, and claims that besides saving a part of the cabbage, he gets more and better seed than if the whole cabbage is left, and avoids trouble from the rotting of the head. It may be well to remove a part of the head if there is danger of rotting, but we should prefer to always leave as much as possible of the head to nourish the seed stalk.

The Prairie Seedling Potato.—F. H., Greensburgh, O., says that he planted three Prairie Seedlings, and gathered only nine potatoes; while three White Peach Blows, with the same treatment, yielded a full half bushel; he asks if the Prairie is not a humbug. It has proved near New York an excellent cropper, of fine quality. For experiments on size of seed see page 336.

Peanuts in Illinois.—T. W. Worley, of Union Co., Ill., states that from 70 hills, with 3 peas in each, the hills 3 feet apart each way, he gathered 36 quarts of peanuts. This is equal to about 70 bushels to the acre, and it is probable that the yield would have been larger had the planting been done as described on page 341. Mr. W.'s experience is contrary to that of the writer in the article alluded to, for he finds that they must be dug in a few days after frost or they will decay.

Concrete or Gravel Wall.—"H.," Bristol, Ind. Good clean gravel, which you say abounds with you, (screened or washed if it is not clean) will do very well for concrete wall, only it requires more cement mortar. The use of wooden blocks, instead of stones, is a new idea, and probably not objectionable.

Straw Protection for Beehives.—Take a few bundles of straw, open, sprinkle, and turn them. When so moist, that they will not break in handling, grasp a handful by the buts and draw it out; take the heads in the other hand, and drop the buts; a little shake will separate all the short and broken straws, leaving only straight and long ones in the handful. Proceed in this way until you have a good bundle of long straw. Put a tight band about it very close to the heads. Twist some yards of rope from the broken straw. Now open the bundle and put it over the hive, spreading it evenly on all sides, and passing the rope tightly twice or thrice about it just above the fly hole. Then, with a knife or shears trim off the straws in a neat arc close around the hole, which should be so closed that only one or two bees can pass at a time. Ventilation ought to be provided before the straw is put on, and this is easily done in hives where the honey boxes are on the top, by taking them out and either leaving the holes open, or better, laying a bit of wire gauze over the holes. Thus protected, only very weak stocks fail to winter well, and such you can not depend upon either to live or die.

Brick Cistern.—"S. F. F.," Havre de Grace, Md. Rectangular cisterns of brick of the form you propose are much weaker, and more likely to bulge and leak than cylindrical ones. If the cistern is to be above ground, build it of wood; if it is to be below the surface of the ground, save the cellar room, and put it in the open ground. The easiest way, if the ground is firm, is to dig out a true cylindrical hole say 8 feet in diameter, strengthening the rims with a sort of grouting of stones, and laying a plank top. It is better to have the cistern arched as a dome, with only a "man hole" left at the top. Such a dome has to be laid upon a support of some kind, which can be subsequently removed. This is easily made of boards and sticks covered with gravel and clay, smoothed over and formed like a true dome. The cement and grouting is laid upon this 4 or 5 inches thick, and afterwards the support is taken away. The top ought to be 18 inches below the top of the ground, and the man-hole is best covered with a stone.

Angle Worms in a Well.—"C. P.," Mishawaka, Ind., is troubled by angle worms in his well. A tight curb to keep them from getting in from the surface, and plastering over the wall for about six feet, downward from the surface will probably prevent their entrance.

A Convenient Barn Cistern.—James W. Fuller, of Lehigh Co., Pa., has recently constructed a barn with cistern attached; the cistern is situated at the rear of a side-hill barn, the wall forming one side of the cistern. A lead pipe placed a few feet under ground connects the bottom of the cistern with the feed-trough in the barn and the trough in the yard. Water can thus be drawn in large or small quantities without trouble or waste of time, and if properly arranged and having a waste cock, it is perfectly protected from frost.

What to Do with the Muck.—Timothy Hoyt, Cumberland Co., N. J., writes: "Upon this tract is an old saw-mill pond, covering nearly 100 acres, which was in use more than one hundred years, but now is empty, in which is a vast quantity of *muck*. My neighbors wish me to write to the *American Agriculturist*, and inquire of its readers the best method of preparing this muck for use as a fertilizer." There are many ways of composting muck. Several have been discussed by the editors in past numbers of the *Agriculturist*, and it would be as gratifying to us as to our correspondent, to receive the practical notions of those who have had large experience.—Our favorite method is to throw the muck into a large heap, sprinkling slaked lime or unleached ashes all through it. Then, after lying a while, mix it in large quantities with stable or yard manure, or saturate it with manure liquid. So much of the heap as can not be composted with manure may be applied to the soil.

Dwarf Broom Corn Seed.—Several subscribers ask where they can get seed of this highly praised variety. Those who have it should preserve it in good order, and communicate with some good seedsmen in regard to prices, before they feed it to chickens There will be considerable call for it before spring.

To Sunday School Superintendents and Teachers.—The Editor of the *Agriculturist* has for several years had in preparation a series of four Question Books and Lessons, the plan of which originated from his own experience in the Sunday School. That they meet the wants of others, seems evident from the fact that the first number, which came into use only last year, has already been called for to the number of over a hundred thousand copies, from all denominations of Christians, though in competition with a multitude of other S. S. Question Books. The plan of the work is to furnish, in each volume, a series of 52 lessons (one for every Sunday in the year), consisting of about seven verses each, with suitable suggestions, questions, answers, references, etc., calculated not only to draw out the minds of the teachers and scholars, but also to supply the place of Commentaries and Reference Books, which are not accessible to the great majority of teachers. A special feature is the selection and arrangement of the lessons in order of time, so that with the accompanying outline history, they give a connected epitome of the whole Bible. No. **1** contains 52 lessons from the four Gospels and Acts, giving a connected view of the history from the birth of Christ to the end of the Acts of the Apostles. No. **2** contains 52 lessons taken from the whole New Testament, thus bringing the whole New Testament history together, with an analysis of the several Epistles, their object, time of writing, etc. Most of these lessons are taken from the second half of the New Testament. Nos. **3** and **4** present a panoramic view of the entire Old Testament history, from Adam to Christ, embracing 104 lessons, taken from the Historical Books, Prophets, and Psalms, *all arranged in order of time*, with a running connected history, which brings all the more interesting events of the Old Testament naturally together in the order of their occurrence. No. **3** extends from Adam to Elijah; No. **4** from Elijah to Christ. No. **3** will be ready early in December. The copyright to these books was given to others who could better publish them, but a special edition of each book is prepared for the *Agriculturist* Office. Price of each series, $1.50 per dozen; $12 per 100 copies; single copies 15 cents. If sent by mail, the prepaid postage requires 4 cents extra on each book, or 3 cents each in packages of ten or more. ☞Single copies for examination will be sent postpaid for 18 cents each; or three copies for 50 cents.

Plowing too deep for Corn.—This happens when much of the cold subsoil is brought up. When corn is planted on this, it germinates slowly, and afterwards grows slowly. It is better to invert the sod in the usual way, and then follow in the furrow with a regular subsoil plow to deepen and loosen the soil below, but not bring it to the surface. If only an inch or so of subsoil be brought up, and then harrowed fine, mixing in manure, before planting or sowing, no harm will be done.

"What is a Compost?"—This name is properly applied to any manure made by mixing various substances of fertilizing value, so that by their action upon one another, or by the effect of the mixture, their joint value is enhanced. Thus, when we mix a bushel or two of lime slacked with brine, or of ashes, with a load of muck, the result is a compost worth more to the soil than both applied separately. So when we take bone dust, hen manure and leached ashes or plaster, in judicious proportions, we make a compost which is good for manuring corn in the hill, for a top-dressing for grass, etc., and so composed or "composted" as to be more conveniently handled, and worth more than if separate. "Compost" does not mean anything in particular, but all compound manures in general which farmers make.

Compost the Corn "Stubble."—J. F. W., of Baltimore Co., Md. advocates the clearing of cornfields of stubs in the autumn, and mixing them with the dung in the barn-yard where the cattle tread and work them up during the winter. A better plan is to compost them with lime or ashes, or some manure in active fermentation. There is no doubt about the value.

Kerosene Oil for Lice on Fowls.—Charles Arnold, of Cumberland Co. N. Y., says that before he was aware of it his fowls were covered with lice. Taking a small swab he applied a little kerosene under their wings, and has noticed none of the vermin since

Vinegar from Cider.—C. H. Wheeler and others. The two conditions for the conversion of cider or other fruit juices, into vinegar, are a temperature varying from 72° to 100°, and free access of air to the liquid. Both these are generally disregarded. The proper temperature is easily managed; free contact with air can be in a measure secured by frequently transferring the liquid from one cask to another. The addition of some "mother," as the plant which lives in vinegar is called, or some old vinegar, hastens the operation. In vinegar factories the liquid is allowed to trickle down slowly through a tall cask filled with beech-wood shavings, a provision being made for a current of air, from near the bottom of the cask, to pass up through it and come in contact with the liquid, which being spread over the shavings exposes a great surface, and the change into vinegar is very rapid.

Keeping Sweet Potatoes.—A. W. Curtis, Green County, Wis. A warm, dry place is necessary. It will not do to expose them to frost or any where near it. Set the barrels in a warm cellar, upon timbers or something to raise them from the cellar bottom. They need no special provision for ventilation. Dry cut straw has been found to answer perfectly as a packing material.

Molasses Gingerbread.—Soda or Saleratus ought never to be used in food, except to correct acidity, unless some acid be added to neutralize the alkali. Whenever they are properly used, the carbonic acid gas which they contain is given off in the dough or batter, and puffs it up. On this depends our ability to raise gingerbread with molasses, which contains a considerable quantity of acid. This acid combines with the soda or saleratus, and sets at liberty the carbonic acid which expands all through the batter and makes it light. Much sugar or molasses prevents the action of yeast.

OUR NEW TERMS are arranged to just cover the cost of supplying the paper. (Premiums, etc., are paid from other resources.) The advance is very little, the price still being only $1 a year in clubs of 20 or more, which it will be easy to raise at almost any Post Office. For *ten* subscribers the price is $12, or $1 20 each. For *four* subscribers, $5, or $1 25 each. For single subscribers, $1 50 per year. *Every* subscriber can easily secure three others to join him. Terms of the **German Edition,** $2 a year; five copies, $7; seven copies, $10; and ten or more copies, $1 50 each. The German edition is more expensive than the English, and contains extra reading matter.—**N. B.**—These terms apply only for this month. We hope to continue them through the year; but any considerable advance in paper would render another increase in the subscription rates necessary.

IS YOUR TIME UP ?—This is to remind our readers that the present paper closes the Volume, and that with it, a considerable number of subscriptions now expire. Supposing that each subscriber remembers his own time of expiration, we save the expense (now unusually heavy) of sending out individual notices. A large number have previously paid beyond this time, or have recently renewed their subscriptions for the next volume. We invite all who have not done so, to send in their renewals at once. It would be a *very great convenience to us*, to receive all names the first of December, so as to get them regularly entered in the State mail books, and the wrappers written up, before beginning to mail the next number. Will each reader who is not already entered for next volume, please oblige us by forwarding his renewal as early as may be? The best time will be when reading this notice, and while the subject is in mind.—The **New Terms**, referred to above, are put at the lowest possible figures, to meet actual cost, and they will not bear hard upon any one.

We scarcely need hold out any special promises or inducements for the future. If the paper has been a good one in the past, *we know* it will be still better. The corps of Editors cannot be surpassed—earnest, active, intelligent, practical men—enthusiastic in their calling—studious to acquire the best knowledge from every source, that they may dispense it to others. Devoting their whole time and energies to the work, and zealous to do all they can for their readers, they cannot fail to bring into these columns a fund of pleasing and useful information, that will be of great value to every reader. No special change in the plan of the paper is intended, but the daily increasing experience of the publisher and his associates will suggest constant valuable improvements. O. J.

One Hundred Thousand !—The Goal Reached !—For several years past we have aimed at a circulation of a round **100,000 copies monthly.** While going rapidly toward it, the rebellion broke out and cut off many subscribers in the Southern and Middle States. Since then, though in the midst of war, the circulation has gone steadily upward, and *we now print fully One Hundred Thousand copies* for actual circulation. [Four hundred reams of 500 sheets each (not 480) are required for printing this number. When put up for mailing, one month's numbers measure in the mail bags just about *one thousand bushels*, and the bags make up sixteen great cart-loads !] As the paper is read by several members in most households, and as very many loan their numbers to the families of neighbors, or exchange with them for other journals, we suppose we may count our readers at nearly a *million*. So far as figures are concerned, our ambition is satisfied. We have set no higher figure, and shall aim at no other specific number. There are other millions who would doubtless be profited by reading the *Agriculturist*, and we hope it will in time find them. It now goes regularly to nearly all the Post Offices in the United States and Territories, and to a large number in British America, as well as to South America, Europe, Asia, Africa, and to the Islands of the Ocean. We invite all present readers to do what they can to increase its sphere of usefulness in their several localities. *Our* future ambition will chiefly be to continue to *increase the intrinsic value* of the pages. No labor, no care, no expense will be spared, to make the paper *worthy* of a place in every household, and to gather and *condense* into its pages the greatest possible amount of reliable and useful information. Engravings that please the eye, and communicate information far more effectually than can be done in words, will continue to be a prominent feature.—We return our warmest thanks to the multitude of friends who have aided in bringing the circulation up to its present condition. They have doubtless been impelled by a desire to disseminate sound and useful information, and, we have often felt, by personal regard for the editors. We trust that the former motive, at least, will lead them to continue their efforts to place the paper in every family. *We* will try to make it eminently useful wherever it shall find an entrance.

A good Timber Splice.—It is worth while to know how to make a neat and firm splice without nails, iron bands, or any other such things. The one here figured comes easily apart, on driving out the rectangular bar or pin in the centre. The locking ends are alike in shape, which is distinctly indicated in the engraving by the light and dotted lines of the upper piece.

The Michigan Agricultural College.—The catalogue for 1864, just received, shows that this institution is in a prosperous condition, and is increasing its facilities for instruction in the various departments of its educational course. We are gratified to notice the appointment of A. N. Prentiss as Professor of Botany and Horticulture, and that of Oscar Clute to the chair of Mathematics. These gentlemen are both graduates of the college, and the institution is fortunate in being able to retain them. Address Prof. T. C. Abbot, at Lansing, Michigan, for further information desired.

Hens Nests.—Butter and lard tubs make first-rate nest boxes, not liable to be troubled with vermin. The plan of Mr. Mabbets', alluded to on page 335, is here figured. The box is 6½ feet long, 1 foot high, 1¾ feet deep. The top lifts off. The front is sufficiently open to allow free ingress or egress. The partitions between the nests fit in grooves, and may be drawn out, and the whole easily cleaned and whitewashed. There are alighting bars in front, and the whole is on legs. It may be made two or three stories high when desirable.

Singing in Sunday Schools and families has been promoted by the introduction of Bradbury's Golden Series, as much or more than by any other work. We are pleased to notice that he has issued a new number, "The Golden Censer," which is fully up to the standard of the previous issues, and this is high praise.

Greeley's "American Conflict."—The first volume of the most remarkable history ever written contemporaneously with the events it records, has been given to the public by Horace Greeley, through the publishing house of O. D. Case & Co., of Hartford, Conn. Even the author's bitterest opponents unite with his friends in admiring the conscientious accuracy of his statements, and the fairness with which he presents the political questions bearing upon the rebellion, that in their day were objects of the most acrimonious discussion. The work is of very great interest and value, well illustrated, and brings the history of the rebellion from 1776 down to 1862. It is sold only by subscription at $4½ and $5. A second volume is to follow at the end of the war.

Sundry Humbugs.—Here are three hatfuls of swindling schemes, sent in from all parts of the country, which we have not room to show up in detail this month. Fletcher Bros., Box 5,549; Fletcher & Co., Box 3,763; Thomas Boult & Co., Box 5,713; and Egerton Bros., Box 4,196, N. Y. Post Office, are the same, or work together, using the same circulars except the address. They are all very anxious to give somebody in every town a prize of ever so many thousands of dollars, to secure their future aid in swindling others. But whom will they get as customers, when they make the same "private" offer to every man in a town whose name they can get?—Arrandale & Co., offer watches, &c., "worth $50 to $150 each," and down to $4, nothing less, for $1 each to greenhorns who don't see through this plausible pretended offer. H. R. Brunswick's letters, dated nowhere, post-marked at Troy, N. Y., ask thousands of people to send him, (part to Medina, N. Y., and part to Bergen, N. J.,) $10 each to pay for ticket 1,649 in the "Cos. Art. Union Ass.," at London, New York, which has already drawn $200. To get the *same* prize for *each* he offers to *lie* the ticket through. Others offer to tell lies at a cheaper rate—some as low as $2.—Solon Edwards, Jr., Hubbardsville, N. Y., asks $10 to $20 for a similar swindle. We thought real gold was plenty on the Pacific coast, but Anson Marsh & Co., of Ophir, Nevada, and Harris & Co., of San Francisco, Cal., offer the bogus article in immense quantities for a very little of the genuine yellow dust to all foolish people who do not see through their bogus schemes. Enough now. See p. 339.

Annual Register of Rural Affairs.—John J. Thomas has given us another of these neat and useful annuals. Besides containing an almanac, it has over 200 pages filled with excellent matter relating to farming, horticulture and rural affairs generally. Sent by mail for 30 cents. The present one for 1865 is the 11th of the series, the whole forming a valuable compendium.

Keeping Brompton Stocks.—W. E. D. keeps Brompton stocks through the winter by placing the plants, which have been well grown through the summer, in boxes in autumn and setting them in an attic before a south window, where they will not freeze before January 1st, and will remain frozen until spring. Some plants have been kept in this way for several years, and they increase in beauty with each successive year.

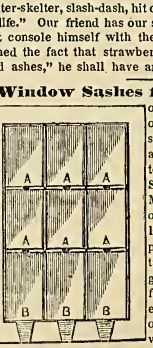
Further Contributions to the Agriculturist Sanitary Fund will be acknowledged next month.

Substitute for Grafting Wax.—W. K. D. finds that rosin melted with alcohol in sufficient proportions to form a thick paste, and then applied with a brush, answers very well for all grafting operations.

Keeping Bees in Cellars in Winter. "P. V. N. M.," of Saratoga Co., N. Y., asks: "Is a large house cellar, containing vegetables, etc., suitable for wintering bees in the movable comb hive?" Also, "would it be a safe place for those in the common box hive?" Unless you have a large number of stocks, we would not advise to house them; in fact, we have little faith in housing bees at all. See Mr. Quinby's directions on page 330.

Killed them with Kindness.—A gentleman in Orange County writes us an amusing account of the manner in which he killed his "Agriculturist Strawberry plants" by "extreme care and pains-taking." His plants came in good condition and he prepared his ground with all sorts of good things. Then he carefully made a mound with sifted chip dust, to which he added a few handfuls of ashes, and set the plants thereon. Earth was drawn around, and some strong manure put over that. But they died, while those of a neighbor, "just stuck in the ground," lived and did well. He concludes "that care and pains-taking are humbugs, and that helter-skelter, slash-dash, hit or miss, are the golden rules of life." Our friend has our sympathies, and lest he can not console himself with the thought that he has established the fact that strawberries don't do well in "dust and ashes," he shall have an extra plant next spring.

Window Sashes for Hot-beds.—It is often convenient and economical to use old window sash on hot-beds, but there is always the annoyance of water standing on them. "Old Subscriber," of Somerville, Mass., has a very simple way of obviating this difficulty. He cuts a piece out from the putty side of each horizontal cross-bar, and also makes grooves or spouts in the frame of the sash, cutting in each case down to the level of the glass. The figure shows where these water channels are made. The sides of ordinary window sash are usually wider than is needed for strength, and shade the bed more than is desirable. The long sides are planed down as much as they can be without weakening them.



"As Usual" Post Office.—Where is it? In what State? Plenty of subscribers ask us to send their paper "*as usual.*"—We can't find the place,

A Free Copy of this December number will be sent to each *new* subscriber for 1865, received during the first of the month, or before the edition is exhausted.

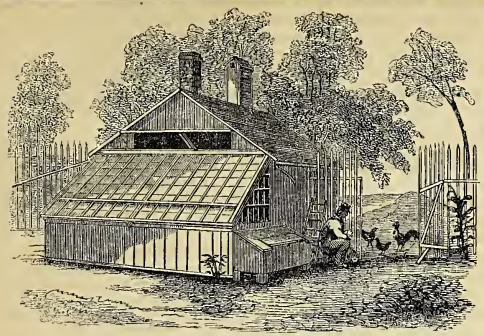


Fig. 1.—POULTRY HOUSE—PERSPECTIVE.

Notes on Poultry and Poultry Houses.

At this time of the year it is easy to stock a poultry yard with excellent fowls in good condition, at the price they will bring for food. Good sized pullets bought in December, placed in warm, light, clean quarters, fed with grain regularly, some flesh and some green vegetable food frequently, will give a good supply of eggs all winter, except, perhaps, in the very coldest weather. There is no more delicious food than poultry and eggs, which, pound for pound, may be produced at a less cost than pork. We have heretofore given good plans for poultry houses,

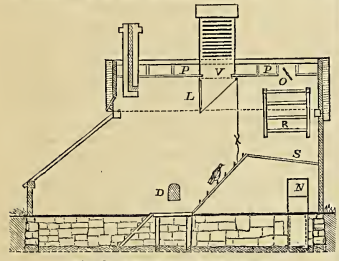


Fig. 2.—SECTIONAL SIDE VIEW.

each possessing some advantages over others, and now we present this one in use by Mr. J. H. Mabbet, of Saratoga Co., N. Y., which is in some points superior to the other good plans.

Figure 1, is a view of the house from the yard, taken from a photograph, and of course accurate. The building is 12x17 feet on the ground. A warm dry spot was selected, the ground dug out two feet deep, and a good foundation laid even with the surface. The building is framed 12x12 feet, having 5-foot posts, with matched pine up-and-down boarding outside, and lathed and plastered inside, the south end being left open, and a door (5 feet by 2 feet) conveniently placed in the middle of the east side. The south end is framed out 5 feet from the building, and similarly boarded and plastered 2 feet high on the south and east, and higher on the west side. This low part is covered by two green-house sashes, each 6 feet square, adapted to 8x10 glass, supported upon rafters resting on the tie beam between the plates of the main part. A triangular sash fills the east end above the boarding, and admits the early morning sun. There are several advantages in not having the glass come nearer the ground;—there is not so much danger of its getting broken, and the passing and doings of men and animals outside are not likely to alarm the fowls. The roof should not be of less than a quarter pitch, and in the gable above the tie beam a long sash arranged to open outward is placed for light and ventilation in summer. The plastering is continued up on the underside of the roof to one foot below the ridge, at which point it is horizontal as shown in fig. 3. The ventilating arrangements are very good. Few poultry raisers seem to be aware of the great necessity for good ventilation in the places where hens roost. It is noticed by every body that they will always roost at the highest point they can reach, therefore if their roosts be near the roof it is very likely to happen that the air becomes close and poisonous. We have known repeated instances of the birds falling from or being found dead on the perches, from this exposure to noxious gases, which is also a frequent source of disease, of paucity of eggs, and of inability to fatten poultry. First there is open draft up through the ventilator (*V*) in the middle of the roof. This may be shut off by raising the swinging door (*L*) by the cord attached to it. The open space (*P*) in the peak of the roof above the horizontal part of the ceiling, has openings into the ventilator. Thus the space between the roof and the plastering is ventilated, and cooled in summer, being open at the eaves as well as above. There is an opening (*O*) into this space (*P*), immediately above the roosting ladders, (seen in figs. 2 and 3,) which provides a free escape for the breath and exhalations from the fowls on the perches both winter and summer, and in winter furnishes the only ventilation. The roosting ladders (*R*) are made of round sassafras sticks, locking together firmly at the top and set into sockets at the base of each, so that they may easily be lifted out and cleaned. Below the roosts is a shelf (*S*) 11 feet long and 5 feet wide, supported so as to incline backward a little. On this a layer of muck may be spread to receive the droppings, and when it is necessary to clear off the manure, the shelf is lowered and scraped clean. Access to the shelf and to the roost is gained by a bird ladder. *D*, is a door to the dusting room, outside the house and opening to the yard.

In one end of the building a small brick chimney is suspended from the roof. This is to

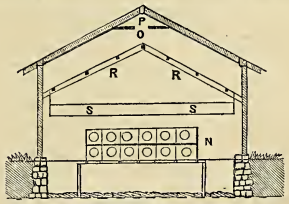
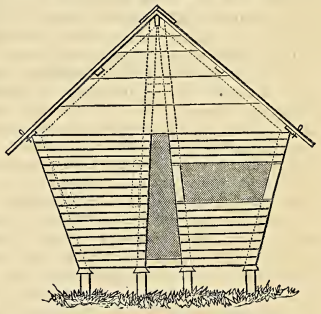


Fig. 3.—SECTIONAL END VIEW.

take the pipe of a small stove by which to maintain such a temperature at night in the coldest weather, that broods may come off in February, or at any other time, and that continued cold weather may not check the laying.

The fountain used for supplying fresh water constantly, was figured and described on p. 308 (Nov.) The *feed box* is 6 feet long, 6 inches wide, 3 inches high in front and 6 behind. The top is a frame with slats. Holes are bored in the back to hang it up by, 6 inches above the ground. The nest boxes are placed outside in summer as shown in fig. 1, and are so arranged that one may remove the eggs without entering the house. In the winter the nest boxes (figured in the "Basket") are within, under the shelf below the roosting ladders. All interior arrangements are constructed so as not to occupy any room on the floor—the nest boxes, feeding box, water arrangements, etc., all being raised above the ground. The floor is covered by spreading two loads of fine gravel or coarse sand evenly over it, which is occasionally raked over and thus kept clean. Mr. Mabbet in speaking of his house and fixtures, says, "all of which I have faithfully tried and can well recommend."



A Good Corn Crib.

Wm. D. Morton, of Lapeer County., Mich., presents the readers of the *American Agriculturist* a plan and description of his corn crib, which we amend a little by setting it upon posts, with tin pans bottom side up over their tops, in eastern fashion, to keep the rats out. Mr. M. has had it in use two years. The frame is of 2x4 inch scantling, and the covering of inch boards. It consists really of two cribs, 3 feet wide at the bottom, and 5 feet wide at the top, framed together as shown in the engraving, and covered by slats or boards. The dotted lines represent the frame. Tenpenny nails are sufficient to hold the slats on the outside, and this looks much better than having the studs on the outside. The doors are of slat boards like the rest, with projecting cleats, two on each side. They are put in or taken out by lifting them up to the board above, and moving the lower ends in or out. In the sketch one door is represented in, and one removed. When it comes to filling the crib to the top, a board in the roof is loosened by withdrawing one of the pins seen in the engraving near the eaves, and slipping the board out. Mr. M. has two such boards in his 12-foot house. He says a house of the dimensions given for the end elevation and 12 feet long will hold about 400 barrels of ears. The length of course may be regulated by the convenience of the builder and the demands of the farm, present and prospective. Some kind of a corn crib is necessary, and the rail pens, at best fit only for corn which is to be fed to hogs before really cold weather sets in, should give place to suitable structures when possible. Similar corn cribs in use in some parts of the country are found convenient, and easily constructed.

SOUND ADVICE.—If you would relish food, labor for it; if you would enjoy raiment, pay for it before you wear it; if you would sleep soundly, take a clean conscience to bed with you.

How About the Barns?

Are they in complete order for the winter? If not, now is the time to put them so. For horses and cattle to thrive in flesh, or for cows to yield good supplies of milk in winter, they *must* be kept warm: In order to this, they need to be sheltered, or if poorly sheltered, they must have a wasteful superabundance of food. The *barn-yard*, where during pleasant days the stock will spend much of their time in winter, ought to be protected on the north and west sides, by the barns, or sheds, or by fences high and tight. There ought to be some sheds that stock can run under whenever they choose; and they should be so large that all can find room. A good supply of straw, leaves, or other litter, will not only keep the cattle dry and warm, but will absorb manures which would otherwise go to waste. And, while pleading for warm and cosy winter quarters, we must also put in a plea for good air within them. The stalls should be cleaned out twice a day, and at evening the floors strewn with sawdust, tan-bark, or some other absorbent bedding; and then if the barns are reasonably tight, some provision should be made for ventilation; at least let there be a small opening or two, somewhere not very remote from the stalls, to let in pure air, and also a ventilator for the escape of foul air which rises from the cattle. With all our care, there will be more or less bad air in a stable, arising from the breaths of animals, from the secretions of their skins, as well as from their exerements, liquid and solid. Many barns are so ill-kept that it is always disagreeable to enter them. On first opening the door in the morning, the pungent odor is often almost strong enough to strike a man prostrate. And are we to suppose it does cattle and horses no harm to breathe such pestilential vapors? Their frequent coughs, sore eyes, and other diseases show plainly enough that they suffer sadly.

Sheltering Cattle Saves Fodder.

A certain amount of food is craved by a healthy beast, even if it do little labor and is kept comfortably warm all the time. The appetites of different animals vary considerably; and some animals are more easily kept in good condition than others, when in health and under the same circumstances. These facts fall under the daily observation of all farmers. The temperature of the animal body is always much warmer than the surrounding atmosphere, except a few hours at a time in the heat of summer. It requires a considerable consumption of food to maintain this heat, and the colder the air, the more heat-producing food is eaten by the animal as a natural consequence. If it can not get all that it needs, its system must nevertheless keep up its temperature, and this is done first at the expense of the fat, and afterward of other parts of the body. The animal grows thin, and can endure far less labor or exposure than if well fed. Work causes a similar increased consumption of food to supply the waste of the muscle which is worn by the labor. To secure the greatest advantage from a certain amount of food, animals should be sheltered, and the warmer their stables are, the less they will eat. The question to be considered is: How warm may they be kept consistently with health? Fresh air is a necessity to neat cattle and horses, and they will do well in very warm stables if there be good ventilation. The same is true of hogs. Sheep, on the contrary, will not do well if kept very warm. They demand a much freer ventilation, if maintained in good health. When shut up simply for rapid fattening, they feed better and fatten faster if their pens are airy; but when kept for breeding, it is essential that they have but little more than thorough shed protection from the storms and high winds. Statements in regard to cooked food and its great advantage over uncooked, for most classes of stock, are to a very limited extent applicable to sheep. They need open air, (not exposure to storms,) and plenty of good food.

Scotch Economy in Manures.

A recent traveller in Scotland mentions that among the poor in many villages, each family has in the back yard a compost hole, about four feet square and as many deep, where ashes, soapsuds, cleanings of pig-stye and garden are put. The children go out in the morning and evening to gather horse and cattle droppings along the public roads for a mile each way, and carry them home in baskets and small wheelbarrows. The same may be seen all over Europe, and the accumulations of manure secured by this industry of poor children is sufficient to fertilize a great many acres of vegetable gardens surrounding the smaller cities and villages. A horse probably drops as much dung in the street as he does in the stable, in proportion to the time he is in each respectively. If we assume that in any town there are on an average 60 horses in the street 12 hours in each day, then they daily leave upon the street as much manure as one horse would make in a month.

Care of Manure, Both East and West.

Eastern farmers have long known that "Manure is money," and though many have been wasteful of it, yet they have saved it much better than their brothers at the West. We are glad to know both from personal observations and the reports of correspondents, this great point in economical husbandry is beginning to excite interest in a measure proportional to its importance among western farmers. They find the corn crop greatly benefited, that for tobacco it is essential, and that many other crops are surer and better for its application. The best way to preserve manure, usually available, is to compost it with vegetable mold, under cover. Where straw is abundant, as on many western farms, it may take the place of muck or sods in the compost. Manure thus composted, though not under cover, keeps up fermentation in a slow way even in winter, and where muck is used, is in first-rate condition in spring for common use. Very strawy compost, in some cases will not be sufficiently rotted, unless the heat be kept up by the addition of horse manure, or by frequent wetting by pumping the liquid manure of the stable over the heap in mild weather. As most farmers are situated, it would be difficult to compost the manure in this way either under cover or not, especially if they have never been in the habit of taking good care of manure. If cattle are kept in barns or sheds, and the manure be removed, it may at least be spread so as to form a compact heap, and be trodden down every time a fresh lot is added. This will be found of great advantage. It is better yet, to enclose it and keep a few hogs upon the heap. When young cattle are kept in airy sheds, the practice of letting them stand upon their own manure, if they be well littered, is not a bad one, though the manure which thus accumulates does not ferment or rot scarcely at all, and before using ought to be overhauled and composted, or laid up to get a good heat. It is a poor plan to keep cows thus. They require more food than when in warm and closer stables—the free air is necessary to health if they stand on the manure—and their food being more watery, the condition of the stable is apt to become uncomfortably moist. Manure saved in this way contains all the urine, which is too often lost, wholly or in part, and is really the most valuable portion of the manure. No system of making manure should be adopted which does not save all the liquid excrements.

Are Manure Cellars Under Barns Best?

It is very desirable to have manure under cover, that it may continue its fermentation all winter; that it may be protected from the action of sun, wind and rain; and that it may be overhauled and composted with muck or other things. We know of barns constructed so well, and provided with such good ventilation, that the manure below does not seem to have any bad influence upon the cattle or the fodder. Others, however, are defective in some points, and have at times, the rank, close smell of fermenting manure pervading the entire building —the ammonia being distinctly perceptible in the stalls, and without doubt seriously affecting the health of the stock. This is especially true where a number of horses are stabled. As a general rule it is preferable even in hill-side barns with the stock standing upon the ground floor, to have the manure thrown back of them into a lower and separate apartment, a "manure cellar", with a grouted bottom and pit for containing the liquids, with a pump for throwing the liquid manure over the pile, and so arranged that the whole can be conveniently worked over and mixed with muck, sods, soil, and other vegetable matter. The fumes from the heating manure will thus not interfere with the contents of the barn nor with the health of the stock. Over this manure shed or cellar may be kept the litter for bedding, pumpkins early in the season, tools, etc., and if it can be constructed so as to be accessible to loaded carts, muck may be stored always ready to mix with the manure daily thrown out from the stables.

What Sized Potatoes are Best to Plant.

Mr. George Maw, an English experimenter, has made some careful trials of the effect of planting seed potatoes of different sizes. He planted in rows 2 feet apart and 1 foot in the row. In one experiment, 20 potatoes weighing 2 ounces, and the same number weighing 4 and 8 oz. each, were tried. The yield was as follows:

The 20 of 2 oz. each (2½ lbs.) yielded 21 lbs. 5½ oz.
The 20 of 4 oz. each (5 lbs.) yielded 29 lbs. 0¼ oz.
The 20 of 8 oz. each (10 lbs.) yielded 35 lbs. 5½ oz.

Extending these results to an acre, shows, after deducting the weight of the seed, that there is a gain of 5,069 pounds in using the 4 oz. in preference to 2 oz. sets, and in using 8 oz. sets the gain over the 2 oz. was 6,942 pounds. Experiments with the above different sorts show even a larger gain than this, from using large seed. Mr. Maw is of the opinion that the use of larger sets produces larger potatoes, and believes that not only the quantity but the quality of the crop may be improved by always planting the largest and best, and that the potato-producing power of land may be increased one-third by using large seed.

Poultry and Poultry Houses.

On page 335, will be found a description of an expensive and elaborate, yet not extensive poultry house—a good one, however, in every respect. In connection with it we publish the following, just at hand, to give our readers the view of the subject from a no more practical or common sense, but a more usual stand point. "C. M. W.," of Dutchess Co., N. Y., writes:

"In every essay that I have read on the construction of poultry houses or 'Henneries,' or on points of importance to the well doing of fowls, I have, with one single exception, found it set down as an imperative necessity that as much *light* as possible should be admitted into the building; and, in one number of your paper there is an engraving of Mr. Vassar's poultry house at Po'keepsie, the whole front of which is glass. Now sir, whence arises the opinion that fowls require, or at least desire so much light? I ask this simply because my experience has proved the contrary to be the fact, so far as my three or four different breeds are concerned. Having one of a series of new stables and other buildings to spare, I used it for my fowls. It is a room 16x18 feet and 10 feet high, and lighted by two large windows. I made it every way as I thought, an enticing habitation, supplying it with every latest approved convenience for laying, sitting and roosting, and *scrupulous privacy*. Food and fresh water, ashes and lime always *ad libitum* in the house as well as outside, not omitting soap boilers' scrap (greaves) "at discretion." They could roam where they pleased, feed when they pleased, lay where they pleased, yet in spite of the light, the comforts, and conveniences of the large, new, clean apartment provided for them, they, almost without exception, made nests in the *darkest* corners of the barn, or most hidden and inaccessible parts of the mow, and in such places, (*the darker the better*,) and only in such did they seem really content to lay, and there they *did* lay, sit and hatch, (as far as results went) to my entire satisfaction.

"The more pains and care I took with my fowls, (beyond, of course, clean and comfortable quarters, and plenty to eat and drink,) the less profit I derived, and fewer chickens I invariably raised. The hens would insist on making and sticking to their own nests out in the meadow, or beside the stone fence, or among a parcel of old boards at back of the barn, and such hens I therefore left to themselves to do as they pleased for themselves, through all sorts of weather, wet and dry. They invariably brought up all their chickens, which were always hardier than any of the others, they got over the "gapes" without interference from me, and (by reason of the mother never being kept from them under a coop,) were never successfully assailed by the common enemies of young chickens, because the mother was always present to defend them, which she frequently did most valiantly and triumphantly. I am the very last man in the world to uphold that horrid "shirking for themselves," which so very many think good enough treatment for fowls, but I do believe that so long as we supply them with all necessary provisions and comforts, it is better to leave the disposal of these to their own interests, rather than force upon them any particular human theories of 'education,' (as the French call it,) which I for one, at any rate, have never found any great reason to crow over."

Remarks.—A hen likes secrecy, and will hide her nest, like other birds. This natural tendency of birds to shun light leads all birds, wild or domestic, to place their nests where the sun can not shine upon the eggs, which would spoil them. They seek also to hide them from their enemies. The nest-boxes should therefore be provided in the darkest part of the poultry-house, and be shut off from the light. This is usually recommended, and always should be. It is advisable to have hen-houses light, where they are designed for winter quarters, and in case the fowls are to be kept shut up. The fowls if well kept will thrive even in close quarters. Still they certainly do better, and enjoy life better if they have their freedom. The art of a good poulterer is to give hens in confinement such care, food and little conveniences, that they shall not pine for this liberty. This may be done and is done by hundreds. It is a great art to make hens choose to lay exactly where you want them to, and to take the best of care of them by letting them have their own way.

The Food of Fattening Animals.

Food supplies the constant wastes of the system, for there is a regular wear and tear of the whole animal system, even if the animal do nothing but eat and sleep; it is, in a certain sense, a labor to him to live. Every muscular effort, no matter how slight, causes a corresponding loss which is made up by the food. The oils and fats of the animal contain no nitrogen. This element is particularly the characteristic of the muscular parts of the system, that is, the lean flesh. Muscular exertion causes a waste or consumption of these parts, and a demand for food from which they can be supplied.

It is necessary to the life of warm blooded animals that the warmth of their bodies should be uniformly at a point much above the usual temperature of the air. To meet this necessity there is a regular and constant consumption of certain substances in the blood, chiefly those which contain no nitrogen. These may be supplied directly from those kinds of food which abound in starch, gum, sugar, cell-tissue, oils, etc, some animals even digesting woody fibre, which belongs to the same class of substances. When more of this kind of food is eaten than the requirements of animals demand, a large part of it is stored away as fat, against a time of possible need. This fat is deposited where it will serve as a blanket against the cold, and between the muscles, so that friction of the muscles upon one another, and bruising from external sources, will be prevented. An excess of nitrogenous substances in the food, however, is not retained in the system, but passes off in the manure. Reasoning from these facts we should conclude that if growing animals and full grown fattening animals were to receive the same kind of feed, the manure of the former would be much less rich than the latter, for it is nitrogen which gives value to manure, and the growing animals would appropriate the nitrogenous part of the food to build up their bodies; and this is true, as proved by many experiments. Milch cows take from their food the nitrogenous part, to make up that part of their milk which forms cheese, and which nourishes the muscular system of their calves; so their manure is very poor. The experiments conducted with such extraordinary care, especially with sheep and pigs, by Lawes & Gilbert, published ten years ago, demonstrated that the amount of food consumed by fattening animals, and the rapidity of fattening, both depended upon the quantity of *non*-nitrogenous constituents consumed, while the value of the manure depended on the nitrogenous constituents.

Cutting, Soaking, and Steaming Fodder.

The present prices of hay and all kinds of coarse fodder, as well as roots and grain, lead farmers to consider willingly all means to save food. We give elsewhere some hints on the saving which warm stables will effect, and there may be also a very great saving in feed if it be put in a more digestible and assimilable form, than if fed in its natural state. The labor of comminuting the food is saved to the animals if it be done by machinery; nevertheless, it is not well to reduce it so fine as to do away with the necessity of chewing thoroughly. If the feed of cattle be so fine and pulpy as to pass directly into the digesting stomachs, not being retained in the first stomach, and subsequently chewed as cud, the digestive system of the animal is interfered with, and disease ensues, as is the case with cows in the swill-milk stables. However, there is no such danger except where some food similar to still-slops is used, and fed without a proper admixture of hay or straw. There is a decided gain in simply cutting up the hay or corn fodder, and wetting it with less water than it will absorb in 10 or 12 hours. Salting it slightly, and sprinkling it with a small quantity of meal, or bran, make it still more relishable, and even the buts of cornstalks thus prepared are eaten very clean. If the mixture be allowed to stand till it heats somewhat, it is still more relished, and goes still further. The value of corn fodder is fully seen when treated in some such way. In our opinion, and that of many very discreet farmers, it is worth as much for cattle food as common hay—not quite so much as prime timothy, or first-rate hay of mixed grasses. A still further appreciation in the value of fodder, of almost all kinds, will be observed when it is cooked. This is most readily done by steaming, and for this purpose the most convenient way is to have a hogshead or other tight containing vessel hung on trunnions, or otherwise suspended by the middle, so that it may be turned over like a bell, or to one side at least, when it is to be emptied. When the fodder is put in, with perhaps a small quantity of water, a jet of steam let into it, and carried to the bottom by a pipe, will rapidly cook the entire mass, and often a good deal more than the vessel will hold at first. The boiler may be kept at a distance from the stalls, so far that there will be no danger from the fire. There are several excellent agricultural steam boilers; some of the best were at the recent fairs, and one has been lately advertised in the *Agriculturist*.

Blue Grass Seeding at the West.

A correspondent "G.," writes to the *Agriculturist:* "The Kentucky blue grass seed may be sown at any time during the year. I prefer autumn and winter. Pasture lands are best sown in autumn, when the stock are likely to thoroughly tramp the ground as the pasture becomes short. Wood lands may be sown after the fall of the leaf. The under growth and leaves should be well cleared off before sowing. In all cases after sowing seed, stock should be turned upon the ground so as to tramp it thoroughly. I prefer the stripped seed, as it is cheaper and will take hold of the soil better than what is called clean seed. Stripped seed before sowing should be thrown upon the barn floor and whipped, to make it loose and more easily sown.

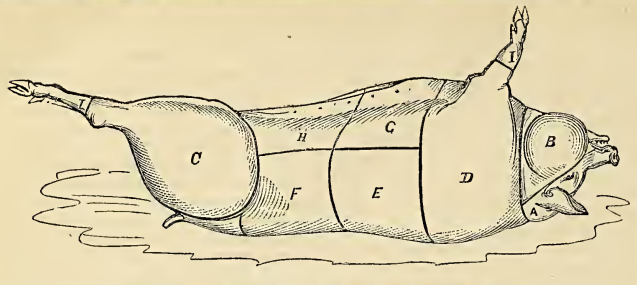


Fig. 1.—OUTSIDE OF CARCASS OF HOG—SHOWING THE CUTS.

Sundry Hints on Hog Slaughtering.

Slaughtering may be most conveniently done as soon as the weather is so cold that meat will keep well. Give the hogs no breakfast. Have an abundance of boiling water ready, say two-thirds of a barrel to a barrel for one or two hogs, according to size—a large half hogshead tub half full, for a 180 to 250 pound hog—and add about two or three pailfuls of *boiling* water for each additional hog to keep up the temperature, taking out an equal quantity, if necessary. The *water ought not to be boiling hot when the pig is scalded.* If it is too hot the skin will be partially cooked and the hairs will stick fast. It is best to try it by dipping an ear, or the nose first. It is usual to add about one twelfth part of cold water. Scald as soon as the hog has done bleeding and is dead; remove the bristles at once; never let a hog lie after scraping, but put in the gambrel and hang him up. If left to lie the blood will settle in the flesh and skin where it is subjected to pressure. If there are several hogs to kill there should be hands enough to stick and scald some, while others are being scraped and dressed, otherwise much more hot water will be required, or the animals will cool too much. The sooner the insides are taken out the better, for the easier will it be to remove the fat from the entrails. This is readily done, when one gets the knack, with a sharp knife held still while the entrail is drawn across it.—When the hog is hung up make a clean straight cut from the vent to the breast bone, cutting through the "Aitch," or pelvis bone, (*L*, fig. 2), between the hams, first, and then, passing two fingers of the left hand into the cavity of the abdomen, draw the belly out; hold the knife with the right hand between these fingers, and as it cuts, follow down with the left drawing the walls of the abdomen out so as not to cut the entrails. Then splitting the breast bone, (*M*) cut through to the sticking place, and put in a brace to hold the sides apart. In cutting the breast bone be very careful not to let the knife touch the stomach and defile every thing with its contents. Now grasp the intestine at the vent and cut it clear; holding the entrails in the left hand, let their weight aid the right hand in tearing them free from their attachments. At the skirt, or diaphragm, the stomach being removed with them, it will be necessary to use the knife to sever the connection; then, lowering them down, cut off the gullet at the throat and lay them on a table to be cleared from the fat while warm. The liver may now be disengaged, by working it off from its attachments next the kidneys, and then it is removed with the heart and lights (lungs), cutting off the windpipe at the throat. Finally wash out and wash off the carcass with cold water and let it hang to cool. Clean the intestines while they are still warm. When the carcass is perfectly cold, it is ready for shipping or cutting up, and may be kept for many days in cold weather. When a hog is to be cut up, first lay it upon its back; cut off the head as shown in fig. 1; then, split the carcass cutting straight through the backbone from the tail to the neck with a cleaver and knife. It is best to saw the bone sometimes, especially if frozen. The leaf fat and kidney fat with the kidneys, (*K*,) seen at fig. 2, are now taken out, using the knife only to loosen them from the skirt (*P*) and tearing them off towards the hams. Then take off the hams. Cut from the tail, and saw the small "Aitch" bone at the loin; then cut rounding to the flank so that they will need little trimming. Next take off the shoulders cutting straight across the side, as shown in fig. 1. Trim off the spare rib from the shoulder, cutting close to the ribs on the side, and straight to the end of the spines; this leaves a good portion of lean meat on the ribs. Loosen the tenderloin at the rear and tear it out. Then cut off the flank (*H*) and brisket (*G*) in one piece, and cut in two if desirable. The thick clear back fat (*O*) is now cut off from the rib-piece (*E*) and loin (*F*) which, left in one piece, are cut as needed for use fresh, or cut into two or more pieces at once. The cheeks (*B*) are removed from the pate (*A*) by a cut passing from the mouth close under the eye (see fig. 1), and the jaw is cracked in the middle. Thus the cheeks are held together and are conveniently hung up. They are cured like hams and shoulders. Head cheese is made of the pate and trimmings. The feet (*I, I,*) are cut off at the hocks and knees, as shown in fig. 1, and soused. In the preparation of this article we are indebted for practical hints to Th's. F. DeVoe, butcher, author, and historian.

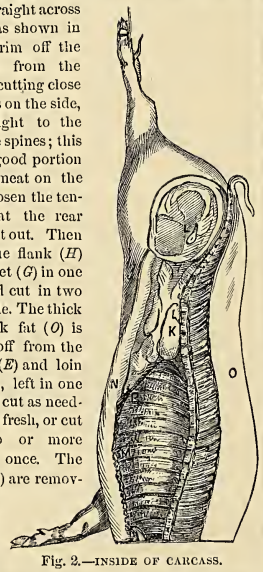


Fig. 2.—INSIDE OF CARCASS.

PATIENCE.—Nothing teaches patience like Nature. You may go around and watch the opening buds from day to day, but each takes its own time, and you can not urge it on faster.

The Good Done by Farmers' Clubs.

There is probably not a single reader of the *American Agriculturist*, who does not believe that he knows something, or how to do something, better than anybody, in his neighborhood, at least. And we may say that this is true generally. There is no man who gives his mind to his work that does not come to entertain certain views or follow certain practices in which he excels other people. Once in a great while a man gets an idea which may be worth "patenting," and publishing to the world in this way; but usually the best thing one can do with a really good idea is to tell it to his neighbors, that, if it be an agricultural matter, the agriculture of the neighborhood may be benefited. This having of secrets, and "knowing enough to keep a good thing to one's self," is all very well, if a man gets a good idea out of his own head only by accident, and but a few in a lifetime; but for a man of average cleverness to hold on in this foolish way to his good thoughts and ways of doing things, is absurd. We think where one good idea is found there are "plenty more where that came from," and if it was the last idea we ever expected to have, we would *act* on that principle. Now, consider what an advantage the farming of a neighborhood would gain if all the thinking farmers should make common property of their choice thoughts. This is just what a farmers' club is good for—to collect the experiences of all, and the results of the reading of all, and have them brought together for discussion; to collect and distribute choice seeds, grafts, etc.; to try new implements, and thus decide upon the merits of each, once for all. In the same way varieties of grain or other crops may be tested to ascertain their value, samples being given to one or more members of the club, who should report the results, and preserve seed for distribution, if worthy. We have pleasant evidence now and then of successful farmers' clubs in various parts of the country, and would be glad to hear more frequently. The Beverly (Ill.) farmers' club, for instance, was formed in November 1860. It subscribes for a number of agricultural journals, holds weekly meetings, distributes seeds and plants, etc. Its Corresponding Secretary, through his correspondence with agricultural societies and farmers' clubs, secures many new and valuable documents and seeds. He writes to the *American Agriculturist* thus: "Some of the originators of this society came to this part of the country when it was an unbroken prairie, covered with luxuriant grass, and glowing with numerous and beautiful flowers. It has been the practice of this society to hold (at the appropriate seasons) fruit shows, flower shows, and molasses shows. At these shows our rare and beautiful flowers, choice fruit, and samples of excellent sorghum syrup manufactured in the neighborhood, have been displayed. We anticipate that the meetings the coming winter will be very interesting. Wool raising, flax growing, stock raising, and agricultural education, a subject which has been considered before—all important questions—will be discussed." There ought to be such a club in every school district in the United States, even in the cities. There would be plenty to talk about. See the "Constitution of a Farmers Club" on page 287 of the October *Agriculturist.*

The Persians, as ancient writers inform us, used to teach their sons to ride, pay their debts, and to tell the truth. That was a long time ago.

Design for a Weather Vane.

People are often at a loss to find a pretty patteru for this useful as well as ornameutal article. We give au engraving of a very tasteful one. The "fly" is of tin, shaped and painted like a flag fluttering in the wind, and of any colors usual to little flags. It is fastened upon an irou rod, (or wooden staff if the size be great) and this is attached to a cylinder of brass which moves loosely upon the pole, and is supported by a ring that is fast to the pole. At its lower end the rod to which the fly is attached, is stayed to the pole by means of a loose ring and wire. The top of the pole may be protected by a ferrule or cap of any kind. A star aud crescent may be constructed by any good tinsmith.

Humbugs—Immense Sums Saved.

During the past five years, this journal has exposed about two hundred swiudling schemes. We have *positive evidence* showing how and where these exposures have saved to the country from a million to a million and a half dollars, aud there is little doubt that the real saving has been more than ten millions! For example, one operator had distributed 1,200,000 pamphlets by mail through the country, describing a humbug seed in a very taking manner, and so well assured was he of success, that he contracted for 100,000 seed bags, for each of which he expected to receive $3. Just as the sale began vigorously, the scheme was shown up in the *American Agriculturist*, which goes to nearly every town and Post Office in the United States and Territories, and to the greater part of the British Provinces. Some one in each neighborhood was thus set on guard, and he communicated with his neighbors. The result was, the swindler took only the 13,000 bags already made, and did not dispose of all of these. He actually estimated his loss by the *Agriculturist* at over $200,000, which was of course saved to the country, direct, to say nothing of the expense of freight, loss of time, labor, and use of soil, had the seeds been purchased, which would have been three or four times as much more. Another operator threatened to sue the Publisher for $40,000 lost to *him* by having his scheme exposed. He was invited to "go ahead." He has contented himself, however, with dogging our steps, and with somewhat extended efforts to destroy the reputation of this paper, which by the way has crossed his track two or three times since, just as he started out on a new swindling enterprise. We could particularize many other illustrations. The fact is, the exposures and warnings in this journal have so opened the eyes of the people at large, and made them so suspicious of a certain class of circulars and advertisements, that during a year or two past we have had little occasion to go into particular details. Lotteries, lottery and chance schemes, mining companies, etc., are still in vogue, and catch enough of the unreading class to do a moderately prosperous business, but we shall soon root out even these—as soon as we can get this paper into every family where it ought to go. The trouble is, that many of those who most need its teachings aud warnings, are the very last to take it. But even such persons are benefited by the general information diffused and the public opinion created. The above is only a single item in the work of the *Agriculturist*, a *negative* work intended to save money, time, and annoyance—without taking into account the *positive* useful information given in regard to the work of the Farm, Garden, aud Household.

The other Side.—During the past five years the circulation of the *Agriculturist* has ranged from 50,000 up to 100,000 (uow), or five million copies in all, aud these have cost the country about $350,000 all told, in sums of 80 cents to $1 for each subscriber, annually. So much only is to be set off against the millions the paper has saved negatively, and the untold millions it has positively added to the wealth and comfort of its readers. One can now scarcely go into a village in the country where there are not one or more gardeus neatly laid out and supplied with necessaries and luxuries that have sprung up from the influeuce of the *Agriculturist*.

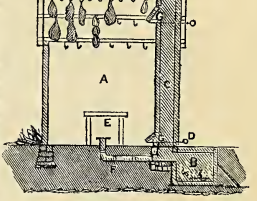
Our Pay.—The paper, while meeting its own expenses, has cost an immeuse amount of labor, thought and care. But we have stored up a rich treasure of satisfaction, and shall keep on in the old way. If we can save the people so many millions of hard earned dollars which would otherwise go to support vagabond sharpers, and if we can do something towards bettering the condition of our race, something to make their labors more effective, to make their homes more attractive, and their hearts better, we shall die rich, eveu should we leave behiud no more gilded dust of our own than constituted the entire wealth of the Jewish woman.—O. J.

"Sheep—Grub in the Head."

A correspondeut of the *American Agriculturist* "A. P. J.," of Grant Co., Wis., differs essentially from other writers on this subject. However, he tells simply what he has seen and experienced, and if it topples over old theories, all the better. Theories that can not stand contact with facts are not worth much. Mr. J. writes: "In the August number I see an article with the above title, which contains the quite common notion that the egg is deposited by the fly *in the nose*, and that as soon as hatched, it asceuds, etc. Now, watch the gadfly carefully, and you will see it light on the sheep just above and a little forward of the eye. At that place it is an easy matter to stick a common pin through the pelt and thin bone into a cavity in the head. This cavity is, beyond any possibility of mistake, the breeding place for the *grub*, for from a single cavity, I have frequeutly taken six to twelve grubs, in all stages, from near maturity to so imperfect a state as to be entirely incapable of moving themselves about.—About 15 years ago, while living in Wyoming Co., N. Y., I lost about one sheep in ten by the "grub." The heads of nearly all were dissected, and in *every one* grubs were *in the brain*—in some cases half a dozen of them—while from ten to fifteen remained in the cavities near the eyes. About the same proportion of sheep died all through the neighborhood. At the next shearing I bedaubed the forehead (face) of each sheep with tar, and about the middle of July renewed it. The result was, that I did not lose one sheep out of eighty the next spring. Others who tarred the *noses* lost many. The above statements are facts. I have no theory to defend. I could never catch the fly that plagues the sheep from the middle of July until about the last of August, and do not know whether or not it has a *borer*, like the seventeen-year locust, through which to deposit its eggs. But this I do know, there is a cavity forward of the sheep's eyes, as large as the cud of one's thumb, where the bone covering is not thicker than the paper I am writing on, and that the grub is found in this cavity as late as in March, in such an imperfect state as to be unable to move itself up or down, or out. It would be a good thing if farmers as well as others had fewer theories and more eyes for facts."

A Convenient Smoke-house.

A good smoke-house should be found upon every farm, large or small, and there are many other families besides those of farmers which would equally be benefited by one. The object is to be able to expose meats to the action of creosote and the empyreumatic vapors resulting from the imperfect combustion of wood, etc. The peculiar taste of smoked meat is given by the creosote, which is also the preservative principle, but sundry flavors, agreeable to those who like them, are also imparted by other substances in the smoke. All that is necessary for a smoke-house, is a room, from the size of a barrel to that of a barn, which can be filled with smoke and shut up tight, with conveniences for suspending the articles to be smoked. In common smoke-houses the fire is made on a stone slab in the middle of the floor. In others a pit is dug, say a foot deep, in the ground and here the fire is placed; sometimes a stone slab covers the fire at the hight of a common table. This is a good plan for all kinds of smoke-houses, as it diffuses the rising smoke, and prevents the direct heat of the fire affecting the meats hanging immediately above. Another plan, engraved above, is a little more expensive, but if properly made, highly approved. The house we show a section of, is 8 feet square, and built of brick. If of wood it should be plastered on the inside. It has a chimney, *B*, with an eight inch flue; a fire place, *C*, is on the outside below the level of the floor. From this a flue, *F*, is carried under the chimney into the middle of the floor where it opens under a stone table, *E*. In kindling the fire a valve is drawn directing the draft up the chimney. The green chips or cobs are thrown on, and the valve then placed so as to throw the smoke into the house. Both in the upper and lower parts of the chimney there are also openings, *G*, closed by valves regulated from the outside. The door has to be made to shut very close, and all parts of the building must be as tight as possible. The advantage of such a house as this over others is, that the smoke is cooled considerably before it is admitted; no ashes rise with the smoke; meats may be kept in it the year round, and not very much smoked either, for the smoking may be occasionally renewed, so as to keep the flies



INTERIOR OF SMOKE HOUSE.

away. The table placed in the center will be found a great convenience in any smoke-house.

The Purple-top Strap-leaf Turnip.

A farmer speaking of this variety, a few days since, in the office of the *Agriculturist*, said:—"They are so uniformly good, in fact so nearly all that we can ask, that there is very little inducement for farmers in this part of the country to experiment with the new English sorts, except the new Swedes and Rutabagas." In addition to this, we quote the testimony of Mr. Harris, of the Genesee Farmer, who writes:

"The Strap-leaf Turnip is certainly a splendid variety to sow late in the season, after early potatoes, &c. I sowed them this year at different times in August. The first sown are now (October 11) quite large. George brought in one this morning that was twenty-two inches in circumference. I had the greatest difficulty in persuading the German women to hoe them thin enough. They could not be persuaded to cut them out more than four or five inches apart, and in a week after I made them go over them again and take out every other one. It is a great mistake to leave them too thick—and it is certainly very absurd to leave them without hoeing. One great advantage in raising turnips is, that they require good culture. This they must have; it is useless to try to raise them without; but if the land is in good condition, and the turnips are singled out and the land well hoed, there is no crop which grows so rapidly or which will please the farmer so much. Next to underdraining, the raising of a good crop of turnips is one of the most fascinating employments connected with farming."

What is Oil Cake, or Oil Meal?

This inquiry comes from a dairy woman, who wants to employ every means to increase the butter yield of her herd. The common vegetable oils are, most of them, expressed from seeds. Hemp seed yields an oil, so do cotton seed, grape seed, poppy seed, etc. Linseed oil comes from flax, and castor oil from the castor bean. These oils are extracted from the raw seeds, or after roasting or heating them, by subjecting them to heavy pressure by hydraulic presses. The residue after the oil is extracted, is usually in the form of an oblong or circular cake, two or three inches or more in thickness, and quite tough and hard. The residue of the castor bean easily breaks up, so that it is not found in market in the form of a cake, but the beans or parts of beans are pressed flat, and stick together very feebly. This is called "castor pomace;" it is never fed to animals, but is highly valued as a manure. Since the outbreak of the rebellion, but little cotton seed cake has been in market. This is prepared from the *hulled* seed, and the more perfectly hulled, the better the character of the cake. It usually comes in the form of meal, which is simply the cake ground. The good qualities are light colored, but darker than Indian meal; the meal from poorly hulled seed shows an abundance of black specks, and this is deleterious if fed to stock. Rape cake is from the seed of a plant of the cabbage kind, which is raised for illuminating oil. It is seldom seen in this country. The residue from hemp seed after pressing out the oil is valuable for manure.

Linseed (flax seed) cake, however, is always meant when "oil cake" is mentioned. This comes both in the form of cake and meal, "oil-meal" in market, and immense quantities are exported from this country to Great Britain annually. It is usually fed upon ent feed to milch cows or fattening animals, allowing from one-quarter pound to six pounds per head—the latter quantity being given only to full-grown beeves. All animals must be gradually accustomed to it, or it will have very undesirable purgative effects. It should always be used in connection with coarse fodder—hay, straw or stalks. When only the cake can be obtained, it may be broken up, soaked or cooked till it becomes a mucilaginous broth, salted a little, and sprinkled on the fodder. Great care should be exercised in feeding it to calves. The same remarks are applicable to cotton seed meal. Good linseed cake contains about 13 per cent. of oil; cotton seed cake, 16½; of albuminous (muscle-forming) substances, linseed cake, 28½; cotton seed cake, 41½. The amount of nitrogen in the former is 4½ per cent.; in the latter over 7. Mucilaginous matters, gum and sugar, in linseed cake greatly exceed those in cotton cake; but though valuable for food, the great value of these articles depends upon the proportion of oily and of nitrogenous, that is, albuminous substances. The amount of phosphoric acid in the ash is also quite considerable. This, with a large part of the nitrogen, appears in the manure, and greatly increases its value, especially if from full grown fattening animals.

The Diminutive Cattle of Brittanny.

Little cows of this breed are becoming quite fashionable in England, and some have been imported here. Some inquiries addressed to the *American Agriculturist* are answered by an extract from Mr. Flint's report of the International Exhibition of 1861: "The little Bretagne cows pleased me exceedingly. Standing only about three feet high on their legs—the most fashionable height—most black and white, now and then, but rarely, a red and white; they are as docile as kittens, and look pretty enough to become the kitchen pet of the hard pressed mountain or hillside farmer, with pastures too short for a grosser animal. Ten pounds of hay will suffice for their limited wants for twenty-four hours, and they would evidently fill a seven quart pail as quick and long as any other cow. Those pretty cows will often hold out in milk, so the herdsmen said, from fifteen to eighteen months after calving, and often begin with the first calf with six or seven quarts a day. The horn is fine, not unlike the Jerseys, but smaller and tapering off gradually, and the escutcheon or milk marks of Guenon generally very good. Good cows are held from sixty to seventy dollars a head, a fancy price of course, but I am not sure that they would not pay six per cent. on the investment as well as most 'fancy stocks'"—It would be an expensive matter to import many at the present rates of exchange, and when good cows can be bought for $50 to $80, and are worth as much as they cost for beef.

Rules for Shoeing Horses.

Most of our farriers shoe without exercising any judgment, trying only to make a well appearing job. A London veterinary surgeon gives the following rules for shoeing horses: 1. After having taken off the old shoe, shorten the toe, and remove all the dead and loose parts of the hoof. Do not cut the sole or pare the frog, unless when the foot has received an injury from a nail or otherwise, when it must be cut out. 2. Let the shoe be of equal thickness, or rather thinner at the heel. The ground and foot surface should be perfectly level. The shoe should be light on the heel. Too many nails are objectionable, and these should be kept as far as possible from the heels. 3. For the hind feet there is no objection to calkins, though they are of doubtful benefit. Horses travel much better without them. The hind shoes are made thicker at the toes than at the quarters; the nails also can be put closer to the heels without causing inconvenience. 4. Side clips should be avoided; they destroy the hoof; this is the case when the nails are too close together. The feet should never be rasped, as it destroys the enamel of the hoofs, renders them brittle, and causes sandcrack and lameness.

Practical Jokes Played by a Horse.

Though many curious tricks and mischievous but harmless capers have been played by horses within our own knowledge, yet it is hard to give credence to the following anecdote from an English paper: "There was (some years ago) a very fine horse in the possession of Henry Meux & Co., the eminent brewers, used as a dray horse, but so tractable that he was left sometimes without any restraint to walk about the yard, and return to the stable, according to his fancy. In the yard there were also a few pigs of peculiar breed, fed on grain and corn, and to these pigs the horse had evidently an insuperable objection. There was a deep trough in the yard holding water for the horses, where this horse went often taking his mouth full of corn. When he reached the trough, he let the corn fall near it on the ground, and when the young swine approached it (for the old ones kept aloof), he would suddenly seize one of them by the tail, pop him into the trough, and then caper about the yard, seemingly delighted with the frolic. The noise of the pig soon brought the men to his assistance, who knew from experience what was the matter, while the horse indulged in all sorts of antics, to show his glee, and then returned quietly to his stable."

Tools, Wagons, etc.—"Taking Time by the Forelock."

There are people enough who delay buying tools, and having old ones repaired, until just when they want to use them, so no reader of the *Agriculturist* need feel obliged to be of the number. The counsels of the Genesee Farmer are good on this point, so we copy them:

"I was so annoyed last spring by the delays in getting plows, implements, &c., ready for work, that I am determined to have every tool, machine, cultivator, plow, &c., put in repair this fall. I have already commenced. It is just the work for a rainy day. I find it a great convenience to have on hand bolts and screws of various sizes. With these, and proper tools, an ordinary man can repair many things as well as a blacksmith. It would be a great saving in the long run if we were more careful in cleaning and *painting* wagons, carts, machines, cultivators, plows, etc., at this season of the year, before they are put away for the winter. Paint is now expensive, but so are implements, and they would undoubtedly last much longer, and certainly look none the worse. I admire the farmer who keeps things snug, with every thing in its place. Nothing looks worse, or is more unprofitable, than a slip-shod style of farming. But it requires constant care

to keep things in their places. I try my best to do so, but cannot congratulate myself on the result. I make spasmodic efforts at straightening up, but in a week things are at loose ends again. I proposed to my men that every time they left a tool out of its place they should pay 10 cents, and every time I transgressed in the same way I would pay a quarter, the sum to be divided among the men on the farm at the end of the season. But it is difficult to carry it out. The better way is to make a man who leaves a thing go and get it after he is through work."

Cultivation of the Pea-nut or Ground-pea.

(*Arachis hypogœa.*)

The well-known Pea-nut, which is consumed in such quantities at the North, is a native of South America, and perhaps of Africa also. It grows and gives good crops in the warmer States, and will mature in New Jersey and even further north; but whether it will give a profitable yield in these cooler localities we have no statistics to show. In the south of France it is grown for its oil, of which one bushel of nuts is said to yield a gallon. Mr. A. Berry, of Cincinnati, O., who has grown them in the South, sends the following notes on their culture: "The plant is an annual, and its branches extend horizontally on the ground from one to two-and-a-half feet in every direction. Its yellow blossom is on a slender stem, which, after the germ is fertilized, grows downward, and places the embryo pea two or three inches beneath the surface of the ground. Hence the necessity of a loose soil for a good crop. Land a little sandy or loamy, and fertile, is best. It should be very deeply plowed and mellow, as then the roots run deeply in search of nutriment. The rows may be three or four feet apart, and on ridges thrown up by the plow as for sweet potatoes, or on level ground, which is usually preferable, especially in a dry season. The seed, which should be of good size, comes up better if the husk is removed before planting; it may be placed two in a hill, and covered about two inches deep, the hills a foot distant from each other, about the time for planting corn. After they are up, thin to one in a hill, and transplant where missing. The cultivation then necessary is to keep the surface of the ground mellow, slightly hilling it about the plant, and free from grass or weeds. The early cultivation may be mostly by horse power, but the later working must be with the hand hoe. I have raised the ground pea in Mississippi with but little greater care than is required by a crop of corn. They continue to grow until frost, and yield, under favorable circumstances, from fifty to one hundred and fifty bushels per acre. When dug they should be spread to dry under a roof, and those for planting kept from freezing. If frozen in the ground they are not injured, but out of it they thaw so suddenly as usually to prevent germination. A stout four pronged fork is useful in digging; and they nearly all come up on the roots. They contain a large proportion of oil, said to be preferable to that from the olive for table use; this renders them excellent for fattening hogs. It is the opinion of some good planters that it pays to grow them for swine. The best manner of preparing the pea-nuts for eating, is to roast them in hot ashes, or better in embers well covered with ashes, to exclude air and keep from burning. Though very palatable, they are not easily digested, owing to their large quantity of oil.

The Grape Mania.

At the present time the interest in the grape question amounts almost to a mania. Not only are the horticultural and agricultural papers engaged in its discussion, but the daily papers join in it, and the editor of one of them, Mr. Greeley, sets grape growers in a fever by the offer of a prize. The peculiar awarding of this prize by a Committee of the American Institute has been the cause of much comment in private and in public. We are receiving very many letters about grape culture from all parts of the country. Here is one from H. P. Byram, Esq., well known as the former editor of the Valley Farmer, and as a writer on Horticulture, in which he discusses the merits of

THE IONA AND ISRAELLA GRAPES.

To the Editor of the American Agriculturist,

In your notes on grapes, in the *Agriculturist* for November, in speaking of the Iona, you allude to the "poor and badly grown specimens" exhibited in New York, compared with those that you had seen grown by other persons in different localities. Those exhibited in New-York, were probably grown by Dr. C. W. Grant, who raised both the new seedlings, Iona and Israella. The question has since been asked me, why these grapes compared so unfavorably with those grown and exhibited by others. I am unable to give a satisfactory answer to the question. Dr. Grant is one of the most intelligent and thorough cultivators in the country. His ground where both the Iona and Israella grapes were grown, has been trenched two or three feet deep, and thoroughly manured the entire depth with well prepared compost, and the subsequent cultivation has been careful and thorough; and, moreover, every good bearing vine, I believe, of the Iona, as well as the Israella, the past season, was subjected to a *forcing process* that must not only have greatly improved the quality and appearance of the fruit, but also hastened the ripening several weeks. The Iona has fruited in the hands of certain amateur cultivators in various parts of the country for several years past, and the numerous specimens that have been exhibited to the public have established the superior character of the fruit. That it is one of the best grapes that we have, is beyond question. Not so, however, with the Israella; though a seedling of the same age of the Iona, it has been but little propagated, and the public knew but little of it, except through "the very persistent puffing" it has received from its proprietor in his various catalogues and advertisements. Besides claiming for it superior excellence, which I have not been able to discover, he says: "It is a large black grape, ripening one week before the Iona, and is the earliest black grape that is large, excellent and hardy." And on page 2 of catalogue No. 3 for the present season, he says: "*Its time of ripening is earliest of all—before even the Hartford Prolific.*" And again on the same page he says: "*While I write, August 20, the Israella is intensely black, and may be said to be fully ripe for market.*" Now, from these statements and many other similar ones from the same source, the public are led to believe that they are not only purchasing a variety of great excellence, but of extreme *earliness, when grown in the usual manner* in the open air. It is far below the standard claimed for it in point of quality, and its earliness in ripening was secured by means not understood by the thousands who have purchased and planted the vines. Now, while very large sums of money have been, and are being paid for the vines of these new grapes, I deem it due, as an act of simple justice to the public, to describe the means employed *to force* these fruits into early ripening. Early in the season, in front of each good bearing vine, of both the Israella and the Iona, was first placed a large glazed sash, and then on the back or north side, and twelve or fifteen inches from the vines, was erected a large wooden screen or wall to break off the wind on the one side, and to reflect the heat of the sun upon the vine and fruit on the other. Now every intelligent horticulturist knows what great advantages are secured by this simple arrangement, and which must hasten the ripening of the fruit two or three weeks. I state these facts from my own personal observation, and they were known to every intelligent person on the place at the time. I have received letters from several of the best cultivators in the country, who have fruited these grapes, and they all concur in placing their time of ripening several weeks later than that specified in the catalogues and advertisements of the proprietor. It would also be a matter of interest to the public to be informed by what skillful manœuvering the "Greeley prize" was secured to the Iona at the late exhibition of the American Institute. But as the Iona is a good grape, and no one was seriously injured thereby, I will now let that pass for the present.

Sag Harbor, Nov. 5, 1864. H. P. BYRAM.

Grapes in Kentucky.

W. Brown, Esq., of Jessamine County, sends an interesting report of his grape experience, which we regret not to be able to publish in full; it contains a record of the thermometer, and is evidently prepared with much care. Mr. B.'s vineyard, consisting of 15,000 vines, is situated on very elevated and naturally drained land, and is planted with the Catawba, Diana, Delaware and Isabella. From his record of temperatures, it appears that during the winter of 1863-64 there were thirteen days and nights during which the mercury was below freezing, and that during seven of these it ranged below zero. The vines had no protection at all, and were exposed to a cold which killed all the blossom buds and a portion of the wood of a peach orchard near by. In the vineyard the Delawares had not a bud hurt, and bore well. The Catawba was somewhat injured, but not sufficiently to prevent a fine crop of fruit. Isabella, about the same as the Catawba, The Diana had most of the buds killed, and bore very little fruit. Time of ripening with him: Delaware, Aug 25; Catawba, Sept. 20; Diana, Sept. 15. Mr. B. likes the Delaware very much, but finds it a slow grower. In relation to the Catawba in his locality, he says: "I have yet to see the grape that I think equal to the Catawba *as it grows here*, for either wine or table use. I am aware that many who never tasted a perfect Catawba will think I show poor taste by this remark after eating the Delaware. I do not know any quality possessed by the grape as a table fruit which could improve Catawba as it ripens with us. I have been familiar with its cultivation here for many years past, and consider the crop as certain as Indian corn. I have never seen it mildew in Kentucky, and this year I do not remember that I saw a rotten grape in this county. In unfavorable seasons it is attacked by the rot, but never to such an extent as to produce anything like a serious failure of the crop.

A WINTER JOURNEY IN 1830.— *Engraved for the American Agriculturist.*

Language cannot give so strong a statement as we present in these two engravings of the contrast between the modes of traveling of a few years since, and of to-day. The first severe storm leaving the snow piled in drifts in every corner and under every bank, and the thermometer down to zero, perhaps, frequently caught the mail "stages" on wheels, and at the wrong end of the line. With heavy loads of boys and girls (of all ages) on their way home for the holidays, the horses toiled through the drifts, sweating and balking, and needed all the persuasions that the driver could apply to bring the snow clogged wheels through to the journey's end. Within, shivering passengers tried to keep each other warm and sociable, and it went strongly against good nature to turn out knee deep in the snow to break road or help shove coach and horses both through some big drift. Yet this was common experience; nobody grumbled much, nor realized how soon any speed less than 20 miles an hour would be considered slow traveling. John Stephenson wrought great things for society when he successfully put the iron horse upon the track, and moved a heavy train of goods and passengers at a moderate rate of speed. There were plenty of scoffers then, and learned men demonstrated mathematically that it was *impossible* to attain a speed of 30 miles per hour. It was much the same then as it now is in this country in regard to steam plowing, and finding a substitute for the "time-honored plow." Steam has taken the place of horse-power in some places so as to demonstrate that it can be used economically, and is it too much to anticipate that similar progress may be made in the field, to that made upon the road within 30 years? Progress is the spirit of the age, and it is impossible to place limits to the achievements of human skill and invention, in mechanical things. Happy are the people who are in the vanguard of this noble advance. Thus far America can justly claim this proud pre-eminence.

A WINTER JOURNEY IN 1864.— *Engraved for the American Agriculturist.*

To Save Seed Corn.

If it has not been done already, select the largest, ripest, and most perfect ears at once. In husking, leave on a few of the inner husks, braid the chosen ears together, and hang them up on a pole or rope in some dry and airy place, where they will get seasoned through, cob and all. It is the mistake of some to throw their corn at husking time into a heap or bin, leaving it there a long time before selecting their seed for next year. The consequence often is, that partial fermentation sets in, and the germ of the seed is so much injured that it fails to grow when planted. And then, blame is thrown upon Providence, or the worms, or the crows. Corn which has been so heated will answer tolerably well for grinding, but for planting it is a very uncertain dependence.

The Ornamental Varieties of Kale.

One would hardly snpposc that any variety of the cabbage could be classcd with the ornamental plants. Yet such is the fact: some of the

Fig. 1.—SMALL LEAF OF GREEN AND WHITE KALE.

new kales are really beautiful. In England, the common red kale has been nscd for a long time for the winter ornamentation of the gardens, it bcing planted with low evergreens and other plants which will endurc their mild winters, to produce pleasing effects of color when seen at a distancc. Mr. T. S. Gold, of Litchfield Co.,

Fig. 2.—SMALL LEAF OF GREEN AND PURPLE KALE.

Ct., sent to our table specimens of variegated kale which are beautiful not only for their form but for their elegant coloring. It is almost impossible to represent in black and white those plants which depend upon color for their beauty, yet we have attempted to give in the engravings some idea of two specimens of this kale. Fig. 1 is a small leaf of the variety which presents the most marked contrasts of color, having a pure white net-work running through a leaf of lively green. In the engraving the green portion of the leaf is represented by the shading. The variety shown in fig. 2, is more beautiful in shape. The leaves present a most delicately frilled green edge, while the central portion is of a fine rose purple, and the two colors blend into one another in the most pleasing manner. What is most striking about this specimen is the fact, which we have attempted to show in the engraving, that some of the leaves have leaf bearing branches starting from their midribs. In the *Agriculturist* for October an illustration was given of young plants starting from a leaf, and now we have the curious phenomenon of the branch growing upon a leaf. This last case is explained by supposing that what would have otherwise been distinct, upright stalks, have in the developement of the leaf become so united with, and so to speak, grafted into it, that they were carried along with the leaf and appear to be produced by it. The seeds of these varieties are sold by seedsmen under the name of "Improved Garnishing Kale."

The Honey Locust for Hedges.

This tree, which is frequently called the Three-thorned Acacia, is the *Gleditschia triacanthos* of botanists, and though a native of the South, is found growing wild as far north as Pennsylvania and Illinois. In favorable situations it forms a large tree, and is frequently cultivated for ornament, on account of its graceful outline and its light feather-like foliage. The flowers are not conspicuous, but the fruit is very much so. This consists of long thin wavy pods, which have been aptly described as looking like apple parings. It produces upon the trunk and branches clusters of strong, large and sharp branching thorns. As a hedge plant it has been in use for a long time, with a variable reputation, but the general verdict is now in its favor. Former failures are attributable to the want of proper treatment of the hedge during its early growth. The plants are readily raised from seed, which may be collected from fruiting trees, or be had at the seed stores. It is usually advised to expose the seeds mixed with earth to winter freezing, or to scald them and keep them in a warm place, before sowing. This may be a safe precaution with old seeds, but we have seen a plantation made last spring with seeds sown without any preparation, and they seem to have come up as regularly as beans. The young plants may be set from two to three feet apart in the hedge row, and after growing a year they should be cut back within two inches of the ground. This will cause a dense shrubby growth, which will need to be brought into shape in the same manner as with other deciduous hedges. The clipping is done in June and September, but any shoot tending to make a strong growth must be removed whenever it appears. A few years' severe cutting will bring this tree into a most excellent hedge. We are not able to state the precise northern limit at which the Honey Locust proves hardy, but all through central New York and Massachusetts it flourishes and stands the winter quite well.

Show may easily be purchased; but happiness is a home-made article which all may have.

For every vice or virtue a man exhibits, he generally gets credit or discredit for a whole brood

The Meadow Saffron.—(*Colchicum autumnale.*)

This is one of the old-fashioned flowers that has nearly disappeared from gardens, but which presents so many points of interest, and is withal so pretty, that we think it deserves to retain a place. It flowers in September and October, and its fresh and spring-like flowers are in

MEADOW SAFFRON.

marked contrast with the languishing condition of most other plants at that season. The flowers appear without leaves. The figure shows one of the bulbs at flowering time. The pistil extends down into the bulb, and the ovary, the part which will become the seed pod, is concealed there several inches below the surface. After flowering, all above-ground traces of the plant are lost sight of until the following spring, when the leaves appear and with them the seed vessels,

which are the result of the previous autumn's flowering. The leaves die and disappear after the seeds have ripened, and nothing is seen of the plant until the flowering time again returns. The leaves and seed pods, as they appear in spring, are shown in the engraving behind the flowering plant. The *Colchicum* is a native of Europe, where it is called Meadow Saffron; in this country it is sometimes called Fall-Crocus and in some places it is known as "Youth and Old Age." It is multiplied by offsets from the *corm*, as the solid bulb is called, which are best removed as soon as the leaves wither. The plant may be grown from seed, but it requires several years to get large enough to flower. There are several florists' varieties, among them a double-flowering one. The dried bulb and the seeds are used in medicine and are kept by druggists.

Fall of the Leaves.—Why they Fall.

As we were walking through the grounds of a friend a few days ago, he pointed out what he considered a singular phenomenon: Of two cherry trees, standing near each other, one had lost most of its leaves, while those of the other were apparently as green and flourishing as ever. From the remark that they had been equally exposed to frost, it is evident that he, in common with others, thinks that the falling of the leaf is due to its being killed by frost. While it is true that some kinds hold their foliage until frost kills them, this is not the case with the majority of our hardy trees. As a general thing the leaf falls because it is ripe; it has fulfilled the objects of its existence, and in so doing obeys a natural law. In many leaves this fall is anticipated, and a distinct line of demarcation between the leaf and stem is formed, while the tissues of the surface of the stem at the point of attachment are hardened, so that when the union is completely severed, the scar is already healed over, and there is no danger from evaporation from the many wounds thus left. The leaf falls in many seasons before frosts come, and the time is peculiar to each variety, just as is the period of the ripening of the fruit. In the case of the two cherry trees referred to above, they were of distinct sorts, the fruit of which matured at different times, and it is not strange that the leaves should perfect their work and fall off at different periods.

To Strengthen Fruit Trees.

Fruit and ornamental trees will sometimes so form their crotches as to split down under a heavy load of fruit or in violent wind. This evil can be obviated by inarching or cross-grafting. Take a vigorous shoot, in spring, and insert one end under the bark of the main stem and the other under that of the opposite branch. Tie the branches firmly together, to prevent slipping apart in windy weather. Or, instead of taking a separate cion, a growing sprout may sometimes be found near the place needing to be strengthened, and by cutting off the top it may be inserted under the bark of the opposite limb. These braces may be put in every few years, as the tree needs them. Such "Siamesed" trees are quite interesting objects to look at.

Clouds never send down to ask the grass and plants how much watering they need; they rain for the relief of their own full bosoms.

Better to distribute the fruits of one's own industry, than to reap the benefit of other people's.

Fig. 1.—How the Root is cut—2, Graft—3, Graft inserted.

Something more about Root Grafting.

In the *Agriculturist* of last January the usual method of root grafting was described and illustrated. Our correspondent "A. W. C.," Burlington, Iowa, who propagates largely in this way, sends a detailed account of his method of grafting. As this differs in some points from the process common at the East, engravings are given to show his manner of working. In the first place, instead of making the whip-graft, as shown in the January article, he practises a sort of side-grafting. Fig. 1, shows the root as prepared for the introduction of the graft. It

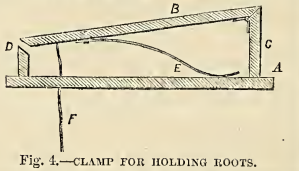


Fig. 4.—CLAMP FOR HOLDING ROOTS.

has a diagonal cut of 1 inch to 1½ inches in length. The grafts, fig. 2, are cut in the usual form, being about 2½ inches long, with a smooth wedge at the base, taking care to have a bud about ½ the way down the wedge, as shown in the figure. Fig. 3, shows the graft as inserted into the root. Where much grafting is to be done, Mr. C. finds it advantageous to use a clamp to hold the root, and to have several persons, each to perform a different part of the

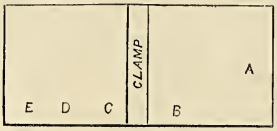


Fig. 5.—POSITIONS AT THE TABLE.

operation. A strong bench is made, 18 inches wide, 4 feet long, and of a hight convenient to work at. The clamp, which is placed across the centre of this bench is shown in section in fig. 4. In the figure, *A* is the top of the bench; *B* is the movable jaw of the clamp; it is a piece of board 3 inches wide and hinged to an upright piece, *C*, which is 9 inches high. At *D*, is the fixed jaw of the clamp, 3 inches high; the upper edge of this as well as the opposing portion of the movable jaw are beveled to meet nicely, and are covered with India-rubber to prevent bruising the root. A spring, *E*, serves to open the clamp, and it is closed by means of the foot working a stirrup attached below to the cord, *F*, which passes through the top of the table. Fig. 5, is a plan of the top of the table with the clamp in the centre. The person who sits at *A*, prepares the grafts, and places them at *B*. The principal operator is seated in front of the clamp with the roots at *C*. He takes a root in his left hand with the top toward him, places it in the jaws of the clamp and secures it by pressing upon the stirrup with his foot. Then with the knife in the right hand, a cut is made like that in fig. 1, by pushing the knife with a sliding motion from him. The top is next cut off, and one of the prepared grafts is inserted, as in fig. 3. The root is now removed from the clamp and laid at the place marked *D*, on the table where another person ties the graft with coarse cotton yarn, by taking three or four turns around the juncture, and securing the end by throwing a loop over the cion. A knife is fixed in the table at *E*, for the convenience of cutting the string. The joints are afterward coated with grafting wax, melted sufficiently to apply with a brush. In this as in all other grafting, care must be taken that the bark of the cion and of the stock come in close contact. The grafted roots are to be preserved in damp sand or earth in the usual manner

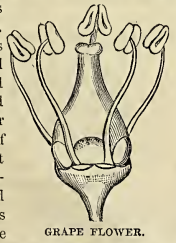
Wine Grapes and Wine.

The influence of climate upon plants is not yet sufficiently appreciated. When it is known that our common hemp produces in India a powerfully intoxicating resin—or "hasheesh"—which is never developed in temperate climates, it will not be surprising to learn that the same grape varies widely in its wine-making qualities in different localities, and that the diverse opinions expressed respecting the wine-making value of particular grapes are not due to the prejudices of the cultivators, but to real differences produced by climatic influences. In a wine grape we have to look for hardiness, good bearing, abundant juice, and above all a juice which contains sufficient grape sugar to produce wine. These are essentials, and after they are secured, our preferences as to flavor may be indulged. The *Catawba*, where it will perfect itself, is best known as a wine grape, but will doubtless be replaced by the *Delaware* in those places where the Catawba will not flourish. Here we have two grapes which are known to be wine producers, and with which all other sorts will be compared. It is expected from the character of the *Iona* that it will stand well as a wine grape, but we have not heard of direct experiments.—*Concord*, in the Middle and Western States, is fast increasing in estimation as a wine producer. At Mr. Knox's recent grape and wine exhibition, the Concord wine attracted great attention, it being of the character of a fine Bordeaux.—*Alvey*. This is a fruit much resembling the Clinton, vine a little tender, but bears well, and is highly prized in Missouri as a good wine grape.—*Taylor*, sometimes called "Bullitt," is very often spoken of as a grape of great promise. It has promised for several years, but we never saw it perform to the extent of producing a decent bunch.—*Oporto* bears an abundance of small bunches; is said to make a good wine, but the berries are lacking in juice.—*Franklin*. This is a small black grape

after the style of the Clinton, with a very high colored juice, and worth looking after, as the vine is very vigorous, hardy and productive.—*Creveling.* Though not generally enumerated among the wine-producing varieties, we are disposed to think well of it, from the specimens of wine we have seen.——*Clinton* should be included in our list of wine grapes, as should the *Diana*, which, where it can be grown, is valued for the purpose of mixing with less highly flavored varieties for improving the flavor of the wine. These are notes of our observations on the wine grapes as we have seen them this season. We hope that growers will, for the present at least, turn their attention to supplying our markets with good and cheap fruit. When every body can buy good grapes at 10 cents per lb., it will be time enough to go into wine-making. Mr. J. H. Boving, Jr., of Fairfield County, O., states that an acre of Catawbas, three years planted, gave him grapes enough to produce 1,000 gallons of wine. Mr. B. preserves his grapes over winter by burying in the manner described on page 146 (May *Agriculturist.*) He recommends a mill for crushing grapes, which we cannot understand without a drawing. Mr. B. recommends that when the pressed grapes are put into a tub to ferment, the clear juice be drawn off from below, after the skins and pulp have risen, as he thinks this saves much labor and gives a finer product, than when juice and grapes are pressed together.

Unfruitful Grape Vines.

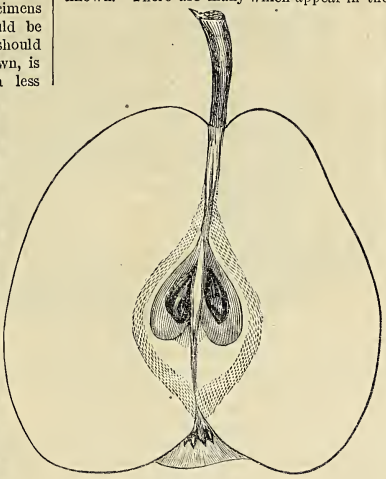
It very frequently happens that persons have thrifty vines which flower abundantly, but never bear fruit. Such vines, as they originate from seed, are usually valued by the owners, and they write to know what can be done to make them bear. The flowers of our native varieties of grape are often imperfect, and in their case it is not worth while to attempt to do anything with them. They should be replaced by a good sort or be cut down and grafted with some standard variety, in the manner described in the *Agriculturist* for Sept. 1863. If the seedling vine is a young one, it should have a fair chance before cutting it down. A careful examination of the flowers will show whether they are perfect or not. The figure given below shows a perfect grape flower expanded. The petals, which fall off as a little cap when the flower opens, are not shown. There is a bottle-shaped body in the center, surrounded by five threads with knobs upon the top of each. The central organ is the pistil, which will become the fruit, and those which surround it are the stamens, or fertilizing organs. If these are both present and in perfect condition, the vine should produce fruit unless some accident of the season or attacks of insects prevent. If either of these parts are lacking, or are badly developed and deformed, it is useless to expect fruit. The engraving shows the flower several times enlarged, but the natural ones can readily be judged of without difficulty, with or without a glass.



GRAPE FLOWER.

A Good Winter Pear—The Lawrence.

A good winter pear is a good thing. We have but few of them, and these ought to be better known. There are many which appear in the



LAWRENCE PEAR.

catalogues as winter pears of the first class, and they may be so in Europe, but here they are generally only late fall fruits, or if they keep, they ripen up indifferently. The Lawrence originated on Long Island, and has now been tested in widely different localities, and has proved a remarkably hardy and vigorous variety. Its leaves are thick, of a dark glossy green, and hang well on the tree, often remaining on after all other varieties have shed their foliage. It is a good and regular bearer; the size and shape of the fruit are given in the engraving. When ripe, the skin becomes lemon-yellow, with numerous brown dots. The flesh is juicy, very sweet, with a good flavor. When in perfection it is excellent. The fruit has fine keeping properties and will remain until mid-winter without shriveling. All pears should be well thinned, and this is especially necessary with the winter sorts, to secure their perfect development. Though the Lawrence has the reputation of ripening its fruit, even when badly grown, it is much better when thinned out.

What are Doucin and Paradise Stocks.

Several have written to know what these stocks, so extensively used for dwarfing apples, really are. For a number of years we have tried to get on the track of some definite information concerning them, and though we find the statement freely made that they are distinct species of apple, no one seems disposed to state what these species are. As we find that Carriere, of the Garden of Plants at Paris, with all his facilities for investigating the origin of these plants, has given it up in despair, we may conclude that it is unknown. They may possibly be accidental seedlings of a dwarfish habit which were introduced so long ago that their origin has been lost sight of. They are always propagated by layers, by stools, or by cuttings. The Doucin is the larger and more vigorous of the two, and has broader and more toothed leaves. Its fruit is broader than long, without ribs; the skin very deep green with a few blotches of brown; the flesh of good flavor. The Paradise makes a bush with narrow and finely toothed leaves. The fruit is longer than broad, slightly ribbed, white and shining, and of a sweet and nearly flavorless quality. The flowers of the Paradise are more abundant than those of the Doucin, and appear a week earlier, and its fruit ripens a month sooner. The Doucin is the stock most generally employed in this country, the other being used only where very small dwarf trees are required for gardens.

Some Practical Hints about Pruning.

Though it is not advisable to cut large limbs during winter, there is much work which can be done with the knife. Indeed, in nurseries the cutting back of the young stock is mainly done in the winter season. Those who understand pruning require no instruction, but novices need to be told that there is a wrong as well as a right way to perform even so simple an operation as cutting back the growth of a young fruit tree. In fact, the early pruning of a young tree is of the greatest importance, as it determines its future shape. Works on horticulture direct to cut to an *outside* or an *inside* bud, if we would contract or open the head of the tree. Supposing we have a young tree and wish to cut back the growth of last season one half or one third: the way in which this is done will give a well or badly disposed growth the next season. Let fig. 1 represent two branches of such a tree. As will be seen, the buds, *A*, *A*, are on the inside, while those marked *B*, *B*, on the outside. It is the upper bud which, unless some accident occurs, will next season grow

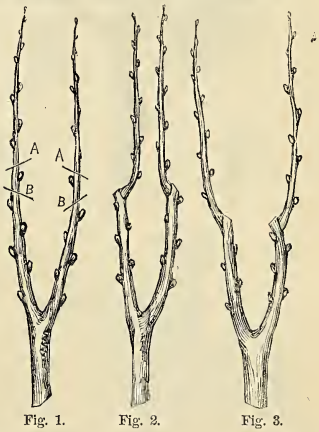


Fig. 1. Fig. 2. Fig. 3.

and lengthen the limb, and if the cutting be made at *A*, *A*, the appearance next autumn will be that shown in fig. 2. If, instead of this, we cut at *B*, *B*, a different shape will be produced, as in fig. 3. By observing this fact in pruning small limbs of all kinds, we have it in our power to control the shape of the tree or shrub.

At a Scotch church, a descendant of Nabal having put a crown piece into the plate, instead of a penny, and starting at its white and precious face, asked to have it back, was refused. In once, in forever. "Aweel, aweel," grunted he, "I'll get credit for it in heaven." "Na, na," said Jeems, the doorkeeper, "ye'll get credit only for the penny ye would ha' put in."

The Witch Hazel.—(*Hamamælis Virginica.*)

As we write, in November, the leaves are dead and fallen, the tender wild flowers have all gone, leaving only the Witch Hazel, which seems to defy the approach of winter. This shrub, singularly enough, comes into flower, and appears at its brightest at the very time when other plants are beginning their long rest. The shrub is usually rather irregular in form, grows from six to twenty feet high, and presents nothing very attractive until autumn, when just as its leaves have turned yellow and are about to fall, the stems are clothed with a profusion of light yellow flowers. The flowers usually appear in October and November and are produced in clusters of three or four upon a little stalk. The engraving is taken from a freshly gathered specimen, upon which a leaf still remains. The shape of the leaf is shown, also some of the flower clusters and the ripe fruit. A separate flower is seen at one side. Its most conspicuous parts are the four long, narrow petals; within these are eight stamens, only four of which are perfect and large enough to be seen. After flowering, the undeveloped fruit remains through the winter, perfects itself the next year and is ripe by the next flowering time. It is a two-horned seed pod, which when ripe, splits and throws out its two black, shining seeds with considerable force. The shrub is common along the borders of woods, and is worthy of a place in a collection of shrubbery on account of its peculiar season of flowering. It may be brought into tolerable shape by a free use of the knife. It propagates by layers and from seeds, or the plants may be transplanted from the woods. The application of the botanical name is not clear, but it is called Witch Hazel, probably for the reason that its twigs were used as divining rods by impostors professing to discover hidden springs of water.

Fighting Against Insects.

Not a few of the queries coming to the *American Agriculturist* are to ask the best way to destroy some particular insect. No questions are more difficult to answer than these, and the best we can do is to note down from time to time such remedies, and present such views as come to us well authenticated. An English gardener has recently found hot water the best remedy for the "American blight," as the woolly aphis is called in England. He syringes the tree with boiling water, which by the time it reaches the foliage probably becomes cool enough not to injure it, but still retains heat enough to destroy the insect. Rose bugs we thought incurable, except by killing and crushing; but a correspondent of the Horticulturist avers that he has kept them from his grape vines while in bloom by a free sprinkling of plaster (ground gypsum). It is easily and cheaply tried; our faith in it is not large, yet we hope it is effective. Dr. I. M. Ward, mulches his pear orchard with salt hay, which is put on in the spring after plowing. His pears are never attacked by curculio; he attributes his exemption to the use of the mulch. The fruit of his neighbors, who cultivate well, but do not mulch, is sadly infested. There is no doubt that the borer can be kept out of trees if cultivators will only take pains to use some of the various methods we have recommended from time to time. In confirmation of this we have a letter from Dr. J. B. Chapin, of Providence, R. I., who says: "Three years ago last Spring, I set fifty apple trees. The first year the borer destroyed three of them, and seriously injured a dozen more. The following April I dug down to where the roots branch off, and tied snugly about the trunk a strip of tarred paper—such as is used for roof covering—and wide enough to reach two or three inches above the surface, and then drew the soil back against it. I have not found a borer since. It is very inexpensive, easily applied, and appears completely effectual."

Insects on House Plants.

These are among the greatest obstacles to success in window gardening, but they are not insuperable. Let us take them one at a time:

The *Red Spider.*—A small fellow, and it needs a sharp eye to find him. But we may be sure he is on hand if the room is kept hot and dry, and the leaves turn yellow. To expel him, syringe the leaves above and below for several days. In desperate cases, put a little sulphur in the water. But water alone is generally effectual.

The *Mealy Bug.*—So called from its whiteness, and from the white web it often spins for itself at the axils of the leaves. It is a hydropathist, and will not budge for syringing. Pick off one by one, or scrape off with a wire or stiff feather.

The *Green Fly.*—This is the commonest foe to house-plants, and happily can easily be got rid of. Tobacco smoke applied under and among the leaves will kill it. The smudge must be made under a barrel, box, or even a paper cap or tent, so as to retain the smoke among the leaves. Put a little tobacco in a pipe and light it, then fill the pipe with tobacco and blow through the stem. This will give off great volumes of smoke which may be directed under the covering of the plant. Do not blow the hot smoke on the leaves. A quicker and pleasanter way is to dip the leaves in water heated to 125° or 130°. Be sure to test the water carefully with a thermometer; then place your hand over the ball of earth in the pot, and inverting it, hold the leaves under water about five seconds, or as long as it takes to count five slowly.

The Green Rose.

Every few years this comes up as a novelty. We saw a green rose at least 25 years ago, and can not tell how much longer it has been known in this country. The "*Flore des Serres*," the great horticultural journal of France, dates its appearance in 1855, but there is no reason why the same phenomenon might not have appeared in this country much earlier. It is simply a degenerate form of rose, with green leaves produced in the place of the petals or "rose leaves." It is well known to those who have paid any attention to vegetable structure, that a flower is only a branch with its leaves changed to serve a particular end. We have tried to explain this here and there, as much as would be proper in a journal of this character. The green rose, which from some accident or, so to speak, freak of the plant, is a flower which has stopped forming petals and gone to producing leaves instead, is a good illustration of the fact that the flowers and leaves are identical in nature if not in character. The engraving gives the appearance of this curious floral monstrosity.

A DOMESTIC PLATFORM.—One who has had considerable experience in the housekeeping line, says that a home should be supplied with such necessaries as piety, pickles, pots and kettles, brushes, brooms, benevolence, bread, charity, cheese, faith, flour, affection, cider, sincerity, onions, integrity, vinegar, wine and wisdom. Have all these and happiness will be with you.

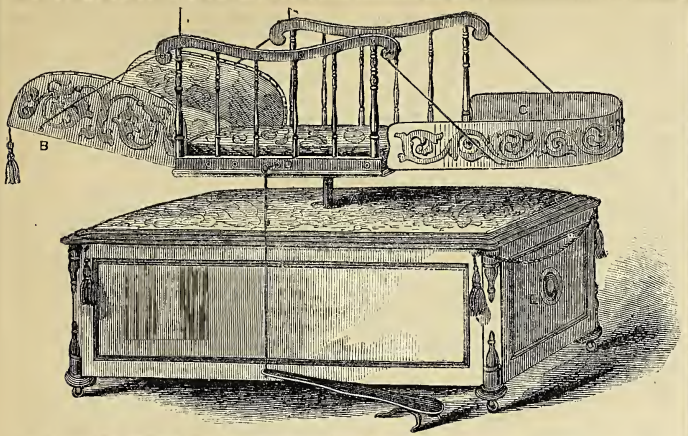


Fig. 1.—The Baby Tender as a Bed (*D*).—The head-rest, *B*, and the foot-rest, *C*, can be lowered, or elevated, or removed, as shown in the other figures. A Drawer with sunken knob, is seen at *E*. The foot pedal, *F*, enables one to keep the bed in motion while sewing or reading. The Bed may be revolved upon the standard, to turn the child's eyes from a strong light, and its head in any desired direction. The whole rests on castors, and is easily moved around the room. A curved wire, cut off from the top of the engraving to save space, can be inserted to support a mosquito or fly net above the child's face.

Tending the Baby.

As a rule, babies are "tended" too much. "Man is a bundle of habits," says the old adage, and these habits begin to be formed before he is two days old. Habits of eating and sleeping, are the first. A child may become habituated to lying for hours on its

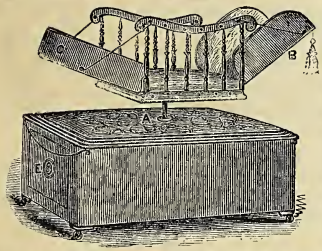


Fig. 2, shows the head and foot elevated for an infant.

bed, or on the floor; or, if indulged, it soon comes to exacting a place constantly in somebody's arms. Just as it is taught to do, it will either go to sleep when laid quietly in its bed, or it will require to be rocked to dizziness. When first laid down it cries, and the mother or nurse tries to soothe it by rocking in a cradle, or literally shaking it in her arms. Every time this is repeated, the habit is being formed or strengthened. Let it cry itself to sleep a few times, and the cries will daily grow less. Indulgence makes it more and more imperious and persistent; it soon learns if it can have its way by

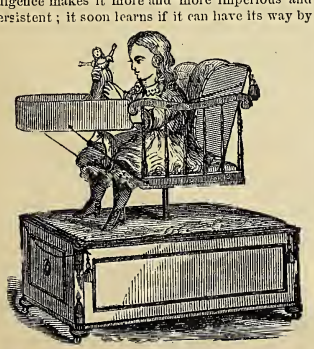


Fig. 3, shows the head-rest elevated as a chair-back, with the foot-piece arranged as a toy-table—a Baby Jumper.

crying for it; and usually from the age of six to twelve or fifteen months, the spoiled baby is a very tyrant in the house. Its whims, rather its habits, must be attended to willingly and quickly, or you will soon be compelled to yield, in order to stop its noise. (Don't call us a 'cruel hearted, inexperienced man,' good mother, for we have a house full of little ones, *almost* as pretty and good as yours—not quite so, of course.) Human nature, or baby nature, is about the same the world over, though we have sometimes thought that the Indian babies, as we have seen them in the Western wilds, are rather better than those of white folks, for the former usually appeared perfectly contented and quiet, though lashed to a board and hung up all day

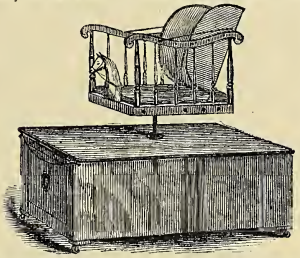


Fig. 4, shows the foot-piece removed, the head-piece elevated as a chair-back, and part of a small horse inserted in front to hold the child in. A towel or napkin may be tied across the top for a child too young to take care of itself. The feet rest upon the Ottoman, or on a foot-pad or stool on the top of it if needed. The chair is raised to any desired hight by turning the ratchet. This form is specially useful for wheeling up to the table as a High chair or Baby-tender.

in the log cabin, (all the result of *habit*, of course.) But enough of sermouizing now; we said our say in the December *Agriculturist* last year, under the head of "Don't Rock the Baby," and will only repeat, that the best possible instrument for injuring babies, is the rocking, cradle which throws them from side to side, reversing the natural flow of the blood, and producing stupor and enforced drowsiness or sleep. Yet in spite of all we may or can say, mothers *will* "tend" the babies constantly, and we will therefore describe for their benefit one of the new-fangled "helps" for the nursery.

Some time ago there came to our house, through the kindness of a friend, one of "Brown's Patent BABY TENDERS." We have tried it, the grown people at home have tried it, and the little folks keep trying it all the time. The unanimous decision is, that it is a good thing—handy, convenient, amusing, and all that, and that there ought to be one in every house where there is a baby. It is a sort of changeable affair—now an Ottoman (fig. 5); now a Bed on springs (fig. 1); now a reclining Couch (fig. 2); now a Playing Chair (fig. 3); then a Baby Walker (fig. 6); then a High Chair for the table (fig. 4); then a Hobby Horse (fig. 7); and finally a "Nursery Chair" (a picture of which we omit because it did not look well in print.) There are two or three other forms of using the appara-

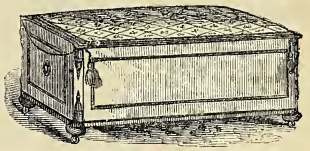


Fig. 5 shows the Baby Tender as an Ottoman or a seat

tus, but we have not room for more pictures. (Mr. J. T. Ellis, 939 Broadway, New York City, who sells these Baby Tenders, will send a descriptive circular with full particulars, free of charge, to all who write to him for one.) The changes of form above noted are so simple and easily made, that our youngsters of six and eight years generally go through them all, (particularly fig. 8,) several times a day, and especially for the edification of their young friends when they call. In fact, to say

Fig. 6.—The BABY WALKER. A double horizontal shaft clasps the child's waist; it opens and is hooked together. It supports the weight at any hight desired so that a child walks around the Ottoman, pushes it about the room, and learns to walk alone. We have found this one of the most useful modifications of the apparatus, for a babe ten months old

nothing of its utility, it is the most amusing and entertaining plaything our little ones have lately found. We have been so well pleased with it, that we have had the accompanying engravings specially made for the readers of the *American Agriculturist*.—The vertical motion is more natural, and therefore preferable to the swinging of a cradle. One may jolt up and down, as on horseback, for a long time, and feel none of the dizziness experienced after a rapid motion of the head right and

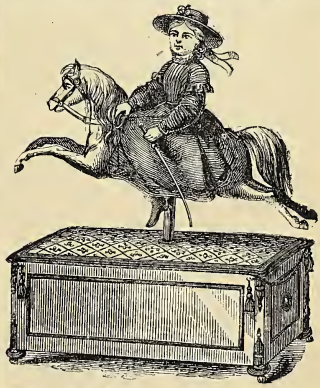


Fig. 7, shows the Bed removed and a horse placed on the shaft for a child old enough to hold on. By turning the ratchet to let the feet just touch the Ottoman, the child can move up and down, or turn the horse around, at will.

left.—Fig. 8 (next page) gives an inside view of the Ottoman and the machinery, which is quite simple, and can hardly be got out of repair. The iron frame, *B*, *E*, has four hinges at the left, and swings freely, raising and lowering the shaft *A*, which

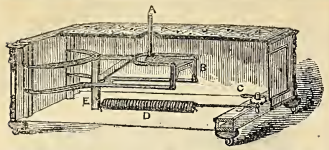


Fig. 8, is an inside view. See description in the text.

passes up through a hole in the cover. The coil spring, *D*, supports the frame at any desired hight, and is adjusted to a heavy or light weight above, by turning the ratchet wheel at *C*, which is accessible by pulling out the drawer (*E*, Fig. 1.)

As will be seen by the engravings, all the apparatus can be taken apart readily; and nearly all but the horse can be packed into the Ottoman. This is 32 inches long, 18 inches wide, and 15 inches high. With the shaft lowered, it answers as a seat or Ottoman, (fig. 5,) and is therefore a convenient as well as neat piece of house furniture, with no cradle rockers projecting and always in the way. The pictures, with the explanations given, will readily show the utility of the apparatus. It is made in different styles, from very plain up to the highest finish, and varies in price from $22 to $100 or more, according to circumstances and taste of the purchaser. The different styles of finish are shown in the different figures; thus one in the style of fig. 4 is $25; fig. 2 is $30 to $35; fig. 3 is $42 to $45; and so on.—The weight of the whole, packed up, is about 100 lbs. The horse (fig. 7) is $4 to $6 extra.

Household Notes for December.

"Molly Greenfield" contributes the following to the *American Agriculturist:* "Let every boy and girl have some regular work to do before and after school, and see that it is done *well*. Let it be the business of one to cut the wood, of another to bring it up, another to milk the cow, take care of the poultry, shovel the snow-paths; one daughter should wash the dishes, another sweep chambers, and when old enough, each take turn as mistress of the table, cooking, etc. Make them understand that only an extraordinary occurrence will excuse them from their daily duties. Do this for *their* sake as well as to aid in the work. Industrious habits are of great value. On the other hand, allow them ample time for play, lest they find home a dull place. Begin to eat the first meal before daylight, or adopt the two-meal-a-day system. A woman can do little else if she cooks three meals between daylight and dark, and the stomach has not time to digest one meal before another drops in. Avoid late suppers. For supper never eat warm bread, soups, or anything else not easily digested. The nightmare isn't always pleasant. Get the little ones to bed early, that they may form habits of early rising, and accustom them to obedience to the first call in the morning....Good health and vigor are far more valuable than pleasing the eyes of vain people. Therefore do not send the little girls to school with thin stockings and short pantalets, or low-necked and short-sleeved dresses. Let their limbs be warmly clothed with thick flannel or knit under-drawers, woolen stockings, and stout calf-skin boots. Have a flannel wrapper for the chest, with long sleeves buttoning at the wrist, and,—please allow me to say it—do dispense with the hoops for these little ones until summer suggests them as a means of comfort. Do not house them too closely. Provide hoods, mittens, leggins, and overcoats, and let them have a chance to play out of doors, as well as the boys....Make good use of the evenings. Do not allow the boys to roam in the street. Provide good society and entertainment for the children at home. If possible buy books of games, puzzles, dissected maps, a microscope, and drawing and painting materials. If practicable, get a chest of tools, or let the boys earn it in some way themselves. Let them exercise their ingenuity in making footstools, picture-frames, doll-cradles, sleds, rustic work, etc. The girls may make needle-books, vases, fancy worsted work, shell and cone work, feather flowers—anything of the kind to interest them and make home the happiest place in the world. Be sure they have knitting work for spare moments; teach them that it is womanly to knit their own stockings, and a great privilege to present a little brother with a warm pair of socks or mittens. Let the boys learn to use the needle, and to knit too if they like. Let every boy and girl feel interested in making home pleasant and family friends comfortable. Encourage them also to spend an occasional evening for the soldier. Cultivate a taste for systematic reading and investigation. Give your child a book that he can read easily, and that will interest him; encourage him to read it thoroughly, and then to give an account of what he has learned. Give particular attention to History, Travels, and the Natural Sciences. Establish a family Post-Office, and let the different members write letters as from different parts of the world, with descriptions of scenery, employments, etc., gathered from reading. Drop in a letter yourself occasionally. Never let a child become weary of home, when there are so many ways of attaching him to it."

Make the Homestead Attractive.

It need not cost much money to adorn the place one lives in. Begin by digging out the briers and thistles of the door yard. Plant a few trees; then add several flowering shrubs. Perhaps that will answer for one year. Next year, make a gravel walk or two, and set a few flowering plants by their sides. Your wife and daughter will sow some flower seeds, if you will only prepare a neat border for them. Look at these few improvements, some bright morning next June, and we guarantee you will be glad you made them. And these labors, so rewarding, will lead on to others. The fences and buildings will be kept in repair. Trees will be set out along the roadside. The house will have window blinds, the rooms will be papered and painted; good furniture will be provided, and books and papers will not be missing. All these things will be regulated according to one's ability. And, as a general rule, whatever our means, it is better to make improvements by degrees, from year to year, than to do them all up at once, "by the job." Be assured this is the way to find the most happiness in home adorning. And, remember, the influence of such improvements does not end with the individual family. They tell silently, but with great effect, upon society. Every neighbor and every passer by feels them, and many are led by such examples to go themselves and do likewise.

Ask Your Wife.

"Oh! what do women know about business?" impatiently asks Mr. Crusty. Not as much as they ought, in many cases, and this is one reason for urging that they be consulted in matters affecting their husbands' interest. To say nothing of the aid which a wife's counsel and suggestions may give, it is unjust to keep her in ignorance of business. Want of a little knowledge of such matters renders many a widow an easy prey to sharpers, or at best greatly adds to her cares and perplexities.

A woman needs to know the state of her husband's affairs in order to exercise proper economy in the household, avoiding what would be meanness if his income were ample, or extravagance when his resources are diminished. The credit of thousands of merchants has been seriously impaired by the high style of living adopted by their families, who are foolishly kept ignorant of the real condition of their finances. On the other hand, we have known men caring more for money than for home comforts, who have studiously concealed their gains, and the wife and daughters have been forced in self defence to a hundred little deceptions by which to obtain even the decencies of life.

Most of a man's thoughts must be upon his business plans, while he is achieving success; if his wife is not permitted to share his counsels, at least in a general way, she is necessarily shut out from much of sympathy with him, and one of the great sources of happiness is thereby seriously diminished. And let not the lords of creation despise the counsels which woman's naturally quick perceptions may suggest: a well timed word from this source may at times be like the railroad switch to turn the train from running quickly to ruin.

About Cooking Oysters.

"Ostrea," from "Out West" writes: "Now can't the Editor of the *Agriculturist*, tell us something about oysters. Thanks to railroads, we get oysters here in the winter which *look* as good as those I have seen in your city, but they do not taste as good after they are cooked, and they shrivel all to nothing. Do they send different oysters here, or is there some secret in cooking them? They are not so very dear that one can not afford an occasional luxury."—Oysters in the city are, as far as we know, not different from those sent inland; the trouble everywhere is in cooking them too much.

For a "plain stew", put the oysters with their liquor into a saucepan, with a lump of butter, and pepper to taste; then just let them boil up once and they are done. Most people however like a little different stew: Put the oysters, liquor and all, into a saucepan, heat them gradually, and as soon as the "eyes," (as the round thick muscle is called) turn white, and the gills, or ruffled margin, appear stiff, skim them out and set in a dish in a warm place. Add to the liquor an equal quantity of milk (or more if you wish more broth), about a tablespoonful of finely powdered cracker for each quart of broth, a little pepper, and let the whole boil. Remove the scum which rises, add butter, return the oysters and let them remain just long enough to get warmed through again, but not to boil. A few bits of mace boiled in the liquor gives a flavor much relished by many persons. Oysters treated in this way will not shrivel.

For Fried Oysters, the largest should be chosen; drain them thoroughly upon a colander or sieve and it is all the better if they are dried with a towel. Powder a sufficient quantity of cracker by means of a rolling pin, and beat up an egg. Dip the oysters one by one in the egg and then in the powdered cracker, rolling them about to make as much as possible of the cracker adhere to them. If the oysters are small, two or three of them can be cemented together by means of the egg and cracker, so as to appear like one large oyster. Put the prepared oysters into a frying pan with a few lumps of butter here and there, cook over a brisk fire until of a light brown, then turn and do the other side in the same manner, and serve. There should be just butter enough to cook the oysters, but not have them swimming in it. They are much better in this way than when fried in a large quantity of lard.

Broiled Oysters are considered preferable to fried, and when well done they are perfection, in the oyster-line. Prepare the oysters as directed for frying, place them upon a wire gridiron, of the kind made for broiling fish and other purposes, having two halves hinged together which hold the oysters between them. The oysters, prepared as for frying, are to be broiled over a bed of lively coals until they are slightly browned, turning the gridiron so as to do both sides. Serve on a *hot* plate, with some melted not "drawn" butter poured over them.

Javelle Water.—This preparation under the French name of *Eau de Javelle*, is sold to a considerable extent in New-York City to laundresses who use it to bleach clothing and produce the extraordinary whiteness upon which they pride themselves. Its frequent use can not be commended, as it injures the fabric, but it is an exceedingly convenient article for the removal of fruit and all other vegetable stains from linen and other white clothes. It is readily and cheaply prepared, and will keep in a well closed bottle for any length of time. Mix half a pound of chloride of lime with half a gallon of water, in a deep jar. Add the water gradually, stirring with a stick so as to break up the lumps. Let it stand for a day or so, and then pour off the

clean liquid from the dregs. Dissolve a pound of pearlash in a quart of hot water and add this to the solution of chloride of lime; the mixture will be at first very milky, but will become clear upon standing, when it may be poured off and bottled for use. The stains may be wet with this preparation before the article is put into the wash.

Sugar Candy for Children.

Many persons condemn candy as an unhealthy article, and entirely prohibit its use by their children, while others supply it freely. When pure sugar is melted with a little water, and after cooking, is worked or "pulled" while cooling, to break up the regularity of the crystals, it assumes a peculiar brittle texture and white color. If cooled without working, it has a tough, semi-transparent texture. Pure candy is therefore neither more nor less than pure sugar.—The fact that the taste for sweets is not an acquired one, but is natural from infancy, is of itself a strong indication that sugar or candy is not unwholesome, if taken at proper times and in due quantity. Sugar is similar in composition to starch, which makes up much the largest proportion of wheat flour and many other common articles of healthful food. To swallow bits of bread or cake at all times of the day, disturbs the digestion and is injurious to health, and the same is true of sugar, candy, fruit, or any other article requiring to be digested. Over-eating of bread or other solid food may produce indigestion, and large amounts of candy will produce the same effect. Sweet substances in the stomach, in greater quantity than can be readily digested, change to acids and thus produce heartburn or dyspepsia and derangement of the bowels. Food, and especially sweet substances, if left on or between the teeth, acidify and corrode them; hence sugar or candy taken at all times of the day will injure the teeth. But a moderate quantity of sugar, or pure sugar candy consumed at meal time, or at other times if not constantly or too frequently, can not be esteemed unhealthful, or injurious to the teeth. Some kinds of colored candy are as harmless as the white or transparent sorts; but as many of the coloring ingredients used are poisonous even in small quantities, the safest rule is, to entirely discard all colored candies. A little flavoring of peppermint, vanilla, wintergreen, cinnamon, etc., is not injurious.

To Make Good Mush, or "Hasty Pudding."—Corn meal rightly cooked, makes an excellent and cheap food. Mush and milk is a very good light supper for children or adults. Plenty of housekeepers know how to make *hasty* pudding. They bring the water to a boil, throw in a handful of salt, often too much or too little; then stir in the meal, frequently leaving large or small lumps in it, and in less than five minutes it is on the table. It is indeed *hasty* pudding, but not good pudding, and no wonder so few people like it, for thus made it has a raw, flat taste. The fact is, corn meal needs to be always cooked thoroughly. For good mush, salt the water just enough, allowing for cooking down; make the mush quite thin, stirring it until it is without the smallest remnant of a lump; then boil it down for at least 20 or 30 minutes, frequently stirring, and taking care that it be not scorched. Thus thoroughly cooked, it is palatable and relished either in milk, or fried after cooling and cutting into slices, when the slices are fried brown but not crisped, with just enough fat to keep from sticking to the griddle.

Mush Muffins.—Mr. A. B. Allen, to whom the country is indebted for the founding of the *American Agriculturist*, 23 years ago, often remembers us with practical hints. Here is one from him which he says is not original, but it makes such nice muffins that everybody should try it: "Make the mush the night before. In the morning add eggs at the rate of three to a quart of the mush; also 6 or 7 tablespoonfuls of flour, and 2 of lard."

☞ For more Household Items, see "Basket."

BOYS & GIRLS' COLUMNS.

A Few Thoughts for December.

The year grows old. Snow sprinkles the northern hills, like the grey hairs which tell of advancing age, and the blasts sweeping among the bare trees remind us of the sighs of declining life. A few brief weeks, and **1864** will be known only among the records of the past.—No, that is not entirely true, for every year makes its mark on those which follow it. **1865** will bring fruit from seed both good and bad, sowed in previous time. The Boys and Girls of twenty, thirty, and forty years ago, are the present men and women, and the characters built up during that period make the world what it is now. Every child has this year laid up within himself that which will help make the history of his own future and the future of Society. If thirty years from now there are crimes, rebellions, wars and desolation, it will be because the boys and girls of to-day have learned and loved to do wrong rather than right. If, on the contrary, the children grow up truthful and virtuous, a few years will bring the world right. This may well cause serious thought. What has the year done for us and in us? We are constrained to ask ourselves, as we look over our pages "Which way has the *American Agriculturist* led its young readers this year?" Our endeavor has been to guide in the right course, and to make the path pleasant. Thousands of cheering letters from young and old show that we have not wholly failed in this, and we can not well fail while sustained by the love of so many strong friends. We may therefore confidently ask our young readers to help keep up and increase the number of the *Agriculturist* family. If father happens to forget that the time of subscription has expired, he will be pleasantly reminded of it by the request of a son or daughter for it another year. Now we wish you a MERRY CHRISTMAS in advance, and hope next month to salute you with A HAPPY NEW YEAR.

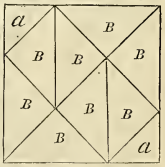
A Lively Plant.

No, we did not mean to say a live or living plant, but a *lively* one. Every fine day last summer, not far from the office of the *Agriculturist*, was a man with a number of pots of plants before him, calling out to the passers by: "Here they are, all lively—only 15 cents." Attracted by his cry and the sight of plants, we went to see what lively thing he was selling, and found it was our old friend the Sensitive Plant. This is a very curious plant, a native of Brazil, which grows a foot or more high, and has very finely divided leaves. The moment these leaves are touched, they fold up, the leaf stalk droops, and the plant appears as if dead. It is not dead, however, but only "playing possum," for if left to itself it gradually unfolds its leaves and is as lively as before. Our engraving below shows two leaves, rather less than the natural size, the lower one being open, and the upper one shut up and drooping as it appears after it has been touched. The plant of its own accord shuts up its leaves and goes to sleep toward sunset, and wakes up and spreads them in early morning. This folding of the leaves at night-fall is practised by many other plants, and there are a few others which move rapidly when touched, in a similar manner to the Sensitive Plant. All plants are alive as much as animals are, though some give stronger evidence of it than others; exactly what *kind* of life a plant has, we are not able to say. The Sensitive Plant will grow readily in the garden, and all the better if the soil be sandy. It is best to sow the seeds where the plants are to grow, as they do not bear moving well; or they can be sown in a pot. Almost all seed stores have the seeds at 5 or 10 cents a paper.

Answers to Problems and Puzzles.

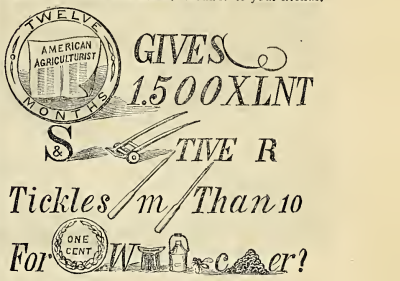
The following are answers to the puzzles, etc., in the November number, page 322. No. 105: *Illustrated Proverb.* "*Birds of a (one) feather flock together.*" One reader gave as the answer: "Misery loves Company."

No. 106.—*Card Puzzle.*—The card should be cut in the manner shown by the lines, in the accompanying engraving. This may be done most expeditiously thus: Fold the card together through the middle, as shown by the perpendicular line; then cut from near the two edges clear across through the folded side; next turn the paper over and cut from near the folded side across through the edges, and so on alternately, making narrow strips; finally open the card and cut down through the middle line, and the card may be stretched out to form a large ring.—No. 107.—*Figure Puzzle.*—The cut shows the proper arrangement. The following have sent in correct answers up to November 7th: H. Martin Kellogg, 101; Charles A. White, 102; Sara H. Barnard, 102; Amelia W. Thompson, 102; B. F. Greene, 104; Clarkson Johnston, 103; J. S. Brigham, 101, 102; W. H. Johnson, 101, 102; J. C. La Fetra, 106; Eliza A. Heyes, 107; "J. G. S.," 107; Elma M. Taber, 107; A. Sampson, 107.



New Puzzles to be Answered.

No. 108—*Illustrated Rebus.*—Read it to your friends.



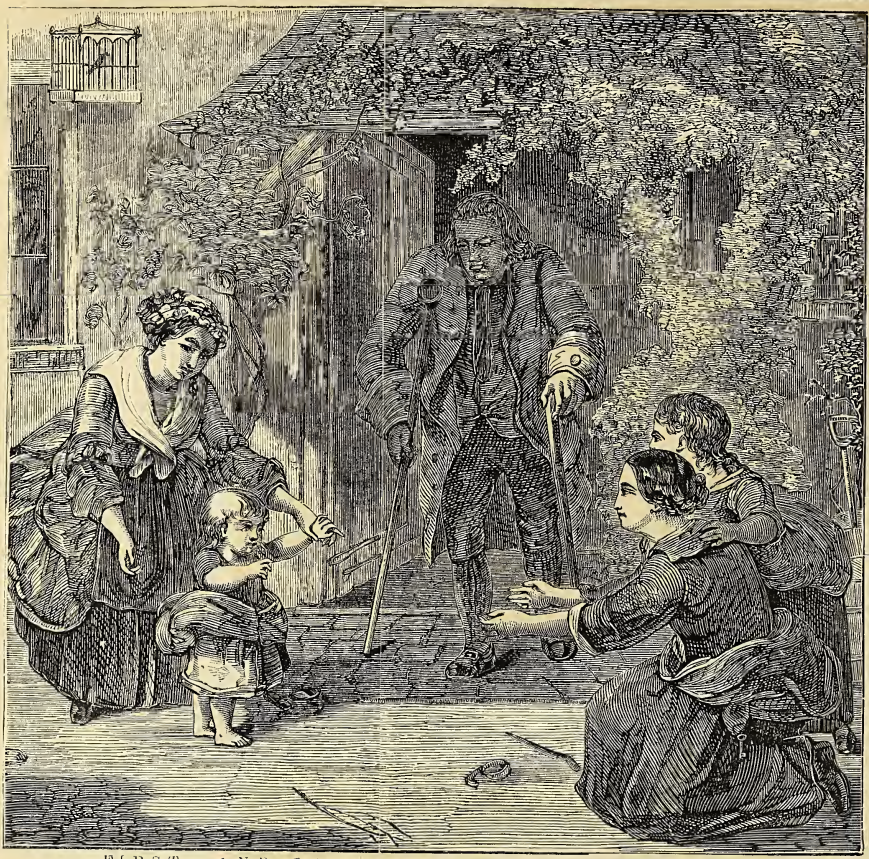
No. 109.—*Mathematical Puzzle.*—The ten letters represent the ten Arabic digits, 1, 2, 3, 4, etc. What value will you give to each letter so that this example of multiplication will be correct—each letter always having the same value. If the mathematicians of the *Agriculturist* family fail to solve this by calculation alone, a clue may be given to another method of finding the answer.

E T S N P O
L R A M
A L M T N S R
P P S M N L T
L E A A P P M
P S R P N E S
A P A S L E R T E R

No. 110. *Historical Questions.*—Contributed to the *American Agriculturist* by "A. T." 1. What name was given to California in 1578? 2. By whom was it then named? 3. When in modern times, and where, was gold discovered in California? 4. From whom was Delaware named? 5. What European first discovered Florida, and what did he name it? 6. When and where was the first English settlement made in Michigan?

Boys and Girls Read Premium List.

Many articles are there offered which our young readers will find very desirable, and which they can obtain by a little perseverance, as many others have often done.



FIRST AND LAST STEPS.—*Engraved for the American Agriculturist.*

"From the cradle to the grave man needs assistance," said a celebrated writer. The artist has worked this thought into the above beautiful picture. The aged man totters along with the help of crutch and cane; the little one has the aid of a friendly hand in its first uncertain steps. Every hour of life, from its beginning to its end, illustrates this truth. Not a morsel of food, not a shred of clothing, nor a necessary thing or comfort, not a book, a game, nor any luxury or joy can we have, unless *some one* has helped to bring it. Even though all assistance from man be denied, there is yet the Loving Father who feeds the fowls of the air, clothes the lilies of the field, and cares for all his children. What a rebuke to selfishness is this. A child's first experiences are practical lessons in the law of love: he who will make this the rule of his life, will follow the footsteps of Him who has gone to prepare a place in Heaven for his children, and when this law is fully learned and heeded by all, the world will be what its Creator intended—a type of Heaven.

Now for that Wood Pile, Boys!

One of the most pleasant things we remember of our boyhood days, is the grand wood hauling and wood cutting "bee," we boys used to have, at the house of a poor widow who was struggling to support herself and her two children, one of them a cripple. Every December, some of the men would go to the forest with stout ox teams, and each bring a nice load of logs and leave them in her door-yard. Her house was near the school, and a lot of us would go over every noon-time and chop away at these logs until every one was cut and split fine. The little boys, too small to swing an ax, and the girls helped too. It was fine sport; it paid, boys, and it has been paying ever since. Suppose you try it. There is perhaps a soldier's wife or widow, or some other helpless woman in your neighborhood, or town. See what you can do for her. Make one snow fort less, while you gather at her door a pile of wood; or if wood be not used, contrive some way to collect a good heap of coa.. Perhaps some of the kind neighbors will fill your hand-sleds with coal if they know what you want to do with it. How many of the boys in our great *American Agriculturist* family will try this? Please let us hear from those who do so.

Fortunes of War—Singular Meeting.

A friend contributes to the *American Agriculturist* the following incident, which recently occurred in Brooklyn, N. Y. Several military gentlemen who had served during the present war, happened to meet and were recounting their experiences. One of them was formerly a Union citizen of Texas, but he had been forced into the rebel army, made prisoner, and afterward released on taking the oath of allegiance. He was asked "Where were you captured?" "At the battle of Spottsylvania, near the Court House," was the reply. "I was there," remarked a Colonel; "and I also," said a Captain; "and I too," said the third, a Lieutenant. The Texas gentleman continued: "During the battle, General Lee rode near us and asked 'What regiment is that?' and was told 'The —th Mississippi'! 'Just the one I want,' exclaimed Lee, and gave orders for them to retake an earthwork from which your Union forces had driven us, and had posted artillery. We started across an open field through a storm of death, arrived in a hollow in front of the work where we were sheltered from its fire, and formed ranks. There were only 267 men remaining. We carried the earthwork, but it availed little; for soon from your infantry, which must have been arranged in four lines of battle, came a perfect sheet of minie balls across the top of the parapet, cutting down every man who showed his head above it. A ball struck the bow of my spectacles, grazed my temple, carrying away a lock of hair, as you see (showing a small scar). A tree 22 inches in diameter, near which I stood, was literally chipped in two by the storm of balls, and fell, killing two men. Out of that 267 men only two besides myself escaped unharmed." "I can corroborate your story" remarked the Colonel. I was in command of the infantry who made that attack, we were in four lines, and after the action I measured the stump of the tree you mentioned."—"When you were taken, did you not wear a haversack bearing a masonic emblem?" asked the Lieutenant. "Yes," was the reply. "And I am the man who made you prisoner," said the former speaker. "Your countenance seemed familiar, but I could not at once recall where we had met before."—Strange as is this account, it may be fully relied on in all its details; and it forms a most striking illustration of the curious chances of war.

"Little Things."

When Columbus was making his first voyage in search of the new world, as he drew near the shores of the unknown continent, the direction in which his vessel was sailing would have led him to the peninsula of Florida. One of his officers having noticed a flight of birds in a southwesterly course, prevailed on him to shift the helm and steer that way. This brought him to one of the West India Islands, and the Spanish colonies were founded there, instead of on the main land, which was kept for the more enlightened nations of England and France. Thus the history of the world was changed by a flight of birds. Many young readers of the *American Agriculturist* will be reminded of the declaration in the New Testament, "Not a sparrow shall fall on the ground without your Father."—In 1829, the Directors of the Liverpool and Manchester railroad in England, offered a prize for the best locomotive engine. One built by a young Swede gave the greatest promise, but some part was broken during the first trial. He asked and obtained two weeks for repairs. Again his engine seemed the most successful, but unfortunately (he thought) some weak part gave way. He asked one day more, which was refused; the engine built by George Stephenson took the prize, and was at once adopted on the railways of England. The Swede, discouraged by his ill success in England, came to America, made many inventions, and finally built the first iron clad vessel, the celebrated Monitor, which, as all know, beat off the monster Merrimac, and perhaps saved a large part of our shipping on the Atlantic coast. This event has made the name of Ericsson a household word, revolutionized naval warfare, and largely aided in preventing intervention by England in our national struggle.

Let Boys and Girls Learn to Give.

We know a gentleman who gives away a large share of his income, though so many of his donations are to distant objects and in so private a way, that no one knows how much he gives every year. In a speech in behalf of a good object, he urged parents to teach their children to give, and stated that when a boy, his parents always divided among the children every donation to the Missionary Societies, etc., so that each one became accustomed to give something to good objects. They were poor, but managed to give a few pennies to every benevolent enterprise. The habit thus formed had grown with his years, and had given him a world of pleasure. Let every boy and girl acquire this good habit; and it is well for them to learn to give something that they have themselves *earned*, or *saved* by their own efforts. It is more blessed to give than to receive. The kind hearted benevolent man or woman is always the happy one. We hope the young readers of the *American Agriculturist* will early learn this way of securing happiness

Wheeler and Wilson's Industrial Palace.

The mournful melody of "The Song of the Shirt" is lost in the cheerful music of the Sewing Machine. Common needle-work has become artistic. Lines of stitching vie in beauty with the lines of the pictorial art. The artist and the artizan clasp hands. Especially is this seen in the palaces of industry with which the city abounds. Our merchant and mechanic princes have honored labor, and the city and country by palatial warehouses and private residences, but it has been left to almost the youngest branch of American industry to contribute the crowning grace. The WHEELER & WILSON SEWING MACHINE COMPANY has purchased the Art Institute Building, No. 625 Broadway, noted as presenting the most picturesque front on that world-famed street, and matched the excellence of their machines by the *finest salesroom in the world*. This Company occupies the first floor and part of the second, with the two basements, while the Picture Gallery and the Studio remain above; and everything has been done that artistic taste and mechanical skill could do to beautify and utilize it. Entering the front door, a vista of 150 feet in length and of proportionate width is swept by the eye, in which is embraced a rare display of cabinet work, carpeting, glazing, furniture, gas fixtures, and articles of *vertu*, the whole evincing the most careful study. The wood work—cases, desks, counter, stair case—is all of black walnut, oil or wax finished, and ornamented with fine carving and ebony moulding.

PERSPECTIVE OF SALESROOM.

Passing the large show windows, to the right is a show case and to the left a thread case and counter fifty feet long, and farther back on either side are several desks, surmounted with galleries of heavy French plate glass. We have never seen more rich and elegant fixtures. The excellence of the material is suited to the work, and the ebony moulding contrasts tastefully with the lighter black walnut. The frescoing of the ceiling is in panels of the soft tint of the tea rose, with intricate corner scrolls of scarlet and violet. The frame work of deep blue pales to violet, which, in turn is lost in the most delicate primrose. Here and there lies a tinge or line of gold, lending light and relief to the mass of blending hues. The cornice is white, blue, and gold. The walls are in panels of pearl and primrose, pencilled with violet, while between each rises a broad pilaster of ultramarine wrought at intervals with gilding.—The carpet, in squares of blue, crimson, and pearl color, with wreaths of veined oak leaves, admirably matches the frescoing. By day this room has the additional light of two large arched sky-lights of flocked glass, figured with artistic symbols, and in the evening is lighted by thirteen bronze and gold chandeliers and reflectors, and by a mellow light through the sky-lights from the gallery above. At the end of the room are the office and the staircase leading to the upper instruction room. The elegant frame-work of this office is filled with panels of flocked glass, beautifully figured with wreaths, scrolls, and artistic devices, into which is introduced the Monogram of the Company, W. W. To those in the doors are added a view of the Company's Manufactory at Bridgeport; also, an elegant representation of the Sewing Machine, with Genius crowning the invention. The carpet of this office is of emerald velvet, strewn with bouquets of roses, and the furniture of black walnut, upholstered in green reps. Under the staircase are several small rooms for various purposes. In the rear is a fine instruction room, finished in light oak. The staircase leading to the upper instruction room is one of the finest in the world, whether in palace or in private residence. The style is purely Elizabethan, richly carved, and lighted by figured glass panels. The newel posts are very elaborate and surmounted by carved columns with gas globes. To the right of the ascent is Crawford's exquisite statue, "Dancing Jenny," and at the left the "Fairy Sewing Machine," the gem of sewing machinery. The direct ascent is six steps to a platform facing a large mirror, which gives a striking duplication of the salesroom; thence to the right ten steps to another platform, from which there is the finest view of the room below and the frescoed ceiling above. To the left then twelve more steps bring us to the *charmed* precincts of the upper instruction room. Here is the crowning beauty. Its form and size afforded the architect the proper conditions for the display of taste, and most successfully has he employed them. The arched ceiling is a *chef d' œuvre*—a gorgeous canopy of brilliant coloring athwart which glance a hundred rare lights and shades. The style of frescoing is purely Romanesque, and its classic beauties challenge comparison with those of Pompeii and the Vatican. A cornice of blue, threaded with white, frames this fair picture. In the four corners lie exquisite medallions of the Goddesses of Justice, Industry, Wisdom, and Prudence. A softened radiance fills the room through the lofty sky-light of figured glass, lingering upon four Raphaellesque cherubs painted within the arch—angels smiling upon the fair humanity flitting beneath. The walls are in arched panels of French gray, the neutral tint serving to throw out and enhance the radiance of the ceiling. The sound of footfalls is lost in the softest of Persian carpets, blending in its wool rich gold and crimson dyes. There is no need of study to discover the beautiful here—the air at its portals is fraught with its spirit, and within, it grows upon you with every moment. To love the beautiful is part of the feminine nature; to associate and to be associated with it, even in the common routine of daily life, is one of woman's fairest dreams. In this industrial *salon* assemble, daily, ladies of the highest social position, for instruction in using the sewing machine. And it is noteworthy that in this establishment is now sold for $50, a better machine than could be bought a few years since for $100. The two basements, each 230 feet in length by 32 in width, are used for adjusting, packing and shipping. In no case has the useful been sacrificed to the beautiful, and in all parts of the premises the most careful attention has been given to the uses thereof. The minuest particulars as well as the *tout ensemble* are worthy the study of *connoisseurs* and practical men.—*Home Journal*.

THE UPPER INSTRUCTION ROOM.

We have from time to time chronicled the development of the Wheeler & Wilson Sewing Machine, until it has become of prime importance. It is now no longer an experiment to be tried, but a success achieved, with results far exceeding the most sanguine expectations. The "novelty" of ten years since has become a "necessity." So fully has it commended itself to public favor, that it is looked upon as indispensable in every department of industry requiring sewing, and the appointments of a well-ordered household are incomplete without the Sewing Machine. Not only are the wants of the housekeeper fully met, but they are found a *necessity* for the seamstress, dressmaker, tailor, manufacturers of shirts, collars, cloaks, mantillas, clothing, hats, caps, corsets, ladies' boots, silk and linen goods, umbrellas, parasols, &c. Some of these branches have attained gigantic proportions, and it is not unusual to find from one hundred to four hundred Sewing Machines used in a single manufactory. Their advantages were most signally demonstrated in our military emergencies. Regiments, brigades, armies, were clothed at short notice. Indeed, the entire feminine force of the country, unaided by machinery, would have been unequal to the exigency. One woman alone has cut out, and her employees stitched 500,000 cartridge bags. This is not surprising when the efficiency of the machine is considered. Seams of considerable length are ordinarily sewed at the rate of a yard a minute, and that, too, in a manner far superior to hand sewing. Garments are now made entirely by it, with the exception of sewing on buttons and the like. Laces are stitched on; folds, tucks, gathers, and plaits are laid and stitched; cord run in binding put on, quilting done after elaborate and beautiful designs. This Company will soon put a machine into market, capable of stitching 1000 button holes per day,

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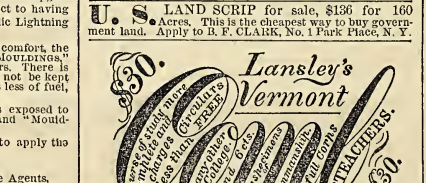

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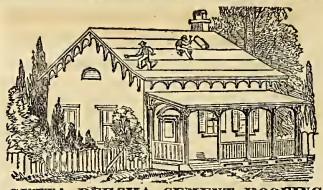

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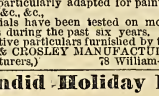

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SHELLERS in great variety, at

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The Art of Saw-Filing scientifically treated and explained on philosophical principles, with full and explicit directions for putting in order all kinds of saws, from a Jeweller's saw, to a steam saw-mill,—Illustrated with 44 wood engravings. 1 vol. 18 mo. Cloth, 60 cents.

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No more useful or acceptable present for the Holidays can be found by Parents or Guardians than one of

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Containing complete sets of tools ready for use. Prices from $2 up, and containing from 8 to 128 different articles according to size.

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are no longer an experiment. Over 200 No. 1 Brakes have been sold and are in

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A pamphlet will be sent free of charge by writing.

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TESTIMONIALS.

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AVOCA, N. Y., March 24th, 1864.

Messrs. Mallory and Sanford:

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Truly yours, R. R. CALKINS.

HAMILTON, O., March 24th, 1864.

Messrs. Mallory and Sanford:

GENTS,—I have been using your Patent Brake for the past four months, and am well pleased with, and do not hesitate to recommend it to all parties, wishing to buy such an article, as the best I have yet seen in use.

Yours Respectfully, LOUIS SNIDER.

JANESBURG, N. J., March 29th, 1864.

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GENTLEMEN,—I have been using your Patent Brake for the last three months, and feel perfectly satisfied with its operation; and would not be willing to exchange it for any other machine I ever saw for any consideration whatever. Its value is enhanced incalculably by its perfect safety to the operator. I am satisfied that the saving of lint and labor over the old Brake, will more than twice pay for the machine every year it is used. Yours truly,

NATHANIEL G. FOLGER.

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TO HOUSEKEEPERS EVERYWHERE

If you don't want your clothes twisted and wrenched, and pulled to pieces by the above old-fashioned BACK-BREAKING, WRIST-STRAINING and CLOTHES-DESTROYING process of washing and wringing, go before next washing-day and buy one of the best LABOR-SAVING, CLOTHES-SAVING, HEALTH-SAVING, TIME-SAVING, and MONEY-SAVING inventions of the age,

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COG WHEELS

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2½.	Small " "	9	10¼ in.	1⅝ in.
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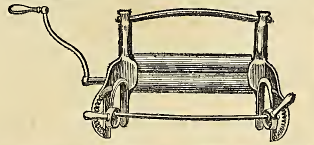

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WARRANTED WITH OR WITHOUT COG-WHEELS

It took the FIRST PREMIUM at Fifty-seven State and County Fairs in 1863, and is, without an exception, the best Wringer ever made.

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